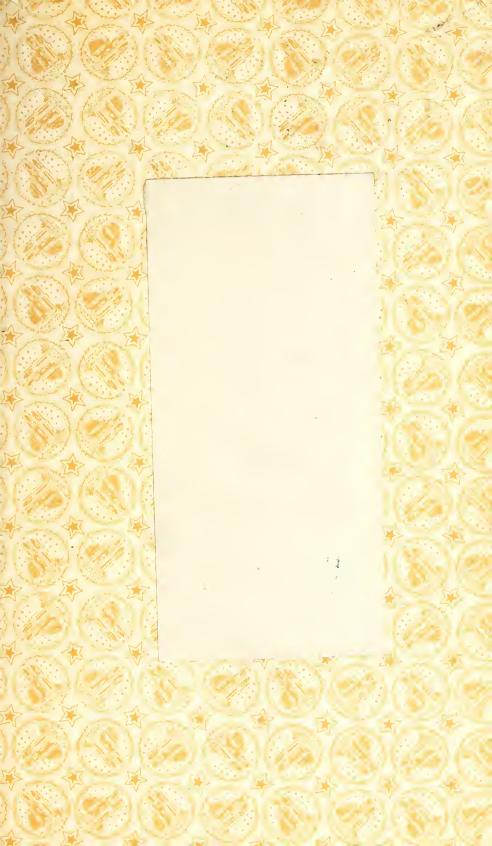


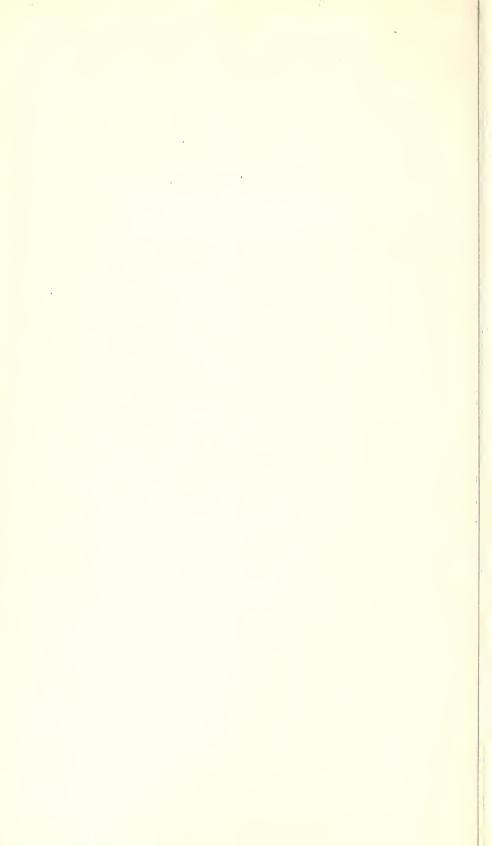
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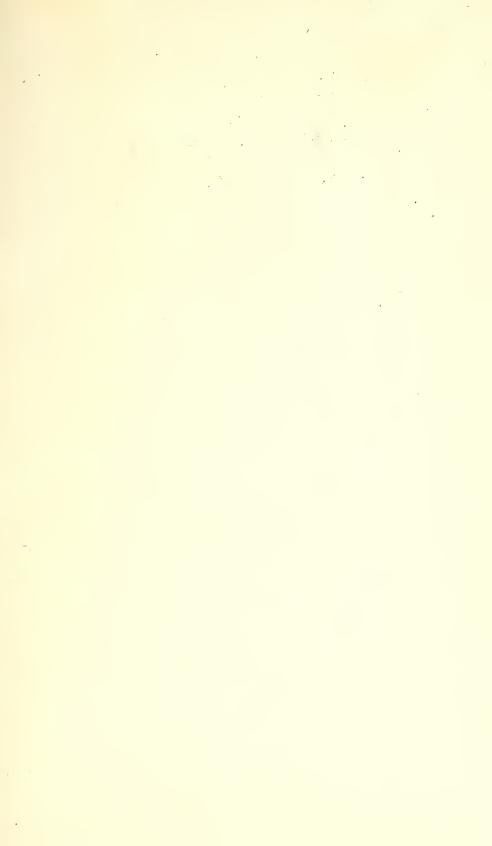
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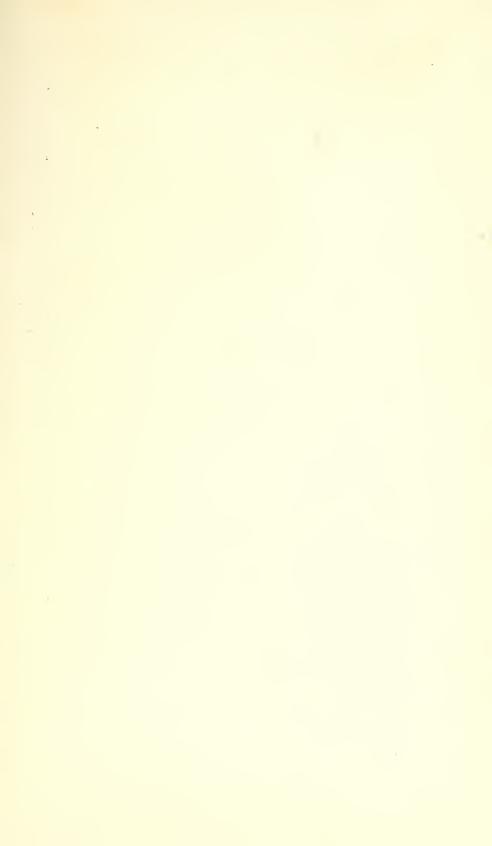


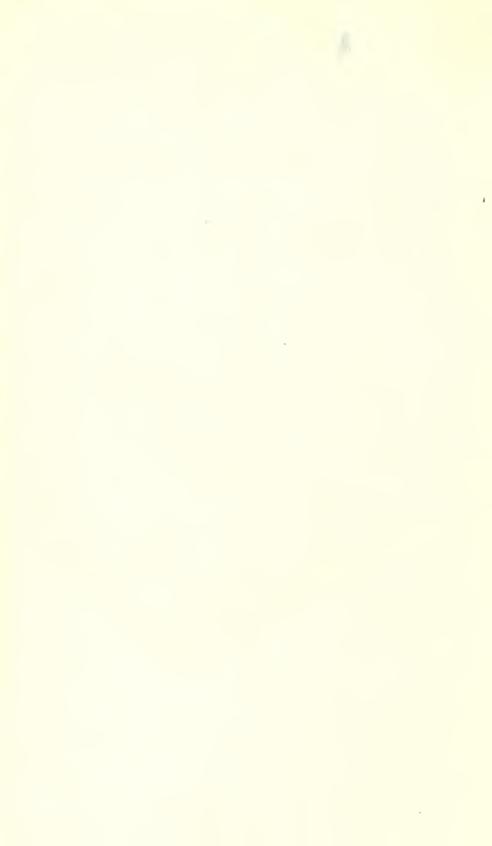






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# BRITISH ZOOLOGY: 200

VOL. IV.

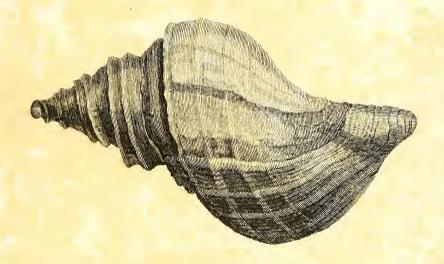
#### CRUSTACEA. MOLLUSCA.

TESTACEA.

O MARE, O LITTUS, verum fecretumque

Mεσειον. quam multa invenitis, quam multa

dictatis.



## LONDON,

PRINTED for J. Walker, Wilkie and Robinson, I.Num. White Cochrane & C. Lengman Hurst.
Ress. Crme and Brown. J & A.Arch. R. Baldwin. Cadell & Davies. J. Harding, J. Richardson, J. Booth.
J. Mawman, and J. Johnson & C.
1812.



## BRITISH ZOOLOGY,

BY

## THOMAS PENNANT, Esq.

A NEW EDITION.

IN FOUR VOLUMES.

VOL. IV.

CLASS V. CRUSTACEA.
VI. VERMES.

#### LONDON:

PRINTED FOR WILKIE AND ROBINSON; J. NUNN; WHITE AND COCHRANE; LONGMAN, HURST, REES; ORME, AND BROWN; CADELL AND DAVIES; J. HARDING; J. BOOTH; J. RICHARDSON; J. MAWMAN; J. AND A. ARCH; R. BALDWIN; AND J. JOHNSON AND CO.

1812.



591.942 P386 V.4.

## ADVERTISEMENT.

I WISH it had been in my power to have given a perfect conclusion to the ZOOLOGY of our country: but my small acquaintance with INSECTS, and the fourth division of the VIth class, Lithophyta and Zoophyta, forbad me to meddle with them. The Public has little reason to regret this omission, since the universal genius John Reinhold Forster, has hinted \* a design of undertaking the first; and my late worthy friend Mr. Ellis, (whom Linneus so justly stiles Lynceus) has in a great measure executed the last.

VOL. IV.

<sup>\*</sup> Catalogue of British Insects. 2.

<sup>† [</sup>This design has never been executed. Mr. Donovan has published fourteen volumes of the Natural History of British Insects; Mr. Marsham one volume of an Entomo-

In my arrangement of the present work, I have taken the liberty of making a distinct class of the CRUSTACEOUS ANIMALS; and separated them from INSECTS, among which they are usually placed.

I have paid implicit respect to the Swedish Naturalist, in my classing of the Vermes and Shells. I have, on another occasion,\* given my sentiments of that wonderful man, (after Ray) the greatest illuminator of the study of Nature. I have borrowed from him the Latin trivial names; sometimes given translations of them; sometimes given other English names, when I thought them more apt.

Gratitude prompts me to mention a most irreparable loss in my amiable friend

logia Britannica; Mr. Kirby a Monographia Apum Angliæ; Mr. Haworth is proceeding with the Lepidoptera Britannica; and several valuable papers on this portion of Natural History are to be found in the Transactions of the Entomological and Linnæan Societies. Doctor Solander gave to the world an account of Zoophytes, by the late John Ellis, Esq., which contains most of the British species. Doctor Turton has included the Zoophytes and the Vermes Infusoria into his British Fauna. Ed.

<sup>\*</sup> Synopsis of Quadrupeds, Preface vii.

BENJAMIN STILLINGFLEET, Esq. in whom were joined the best heart and the ablest head. Benevolence and innocence were his inseparable companions; retirement his choice, from the most affectionate of motives.\* How great, yet how unnecessary, was his diffidence in public! How ample his instruction in private! How clear his information! How delicate the conveyance! The pupil received advantage, edified by the humility of the Thoroughly imbued in Divine Philosophy, he had an uncommon insight into the uses of every object of Natural History; and gave sanction to those studies, which, by trivial observers, were held most contemptible. The end of his labors was the GOOD OF MANKIND. He attempted to destroy the false shame that attended the devotee to Ornithology, the chace of the Insect, the search after the Cockle, or the poring over the Grass. He proved every subject to be of the greatest service

<sup>\*</sup> Mr. GRAY's Letters, 288.

to the world, by the proper remarks that might be made on them. The traveller, the sailor, the husbandman might, if they pleased, draw the most useful conclusions from them. The reader may receive the proof from his translations of various essays, the productions of the LINNEAN school; his own CALENDAR of FLORA, and Observations on Grasses. much to be lamented is this short catalogue of the works of so great, so good a man! I speak not of his Essay on Music, as foreign to the subject. Some of his remarks appear in my British Zoology. He thought me so far deserving of his encouragement, as to dedicate part of his time to farther acts of friendship. I received the unfinished tokens of his regard by virtue of his promise; the only papers that were rescued from the flames, to which his modesty had devoted all the rest.

Defended by so great an example (howsoever unequally I may follow it), there is hardly any need for an apology for the subject of the following sheets. But if any should require one, I take the liberty of delivering it in the words of my ever regretted friend:

From a partial consideration of things, we are very apt to criticise what we ought to admire; to look upon as useless what perhaps we should own to be of 'infinite advantage to us, did we see a 'little farther; to be peevish where we ought to give thanks; and at the same time to ridicule those, who employ their time and thoughts in examining what we were, i. e. some of us most assuredly were, created and appointed to study. 'In short, we are too apt to treat the 'Almighty worse than a rational man 'would treat a good mechanic; whose works he would either thoroughly exa-'mine, or be ashamed to find any fault with them. This is the effect of a par-' tial consideration of Nature; but he who has candor of mind, and leisure to look

farther, will be inclined to cry out;

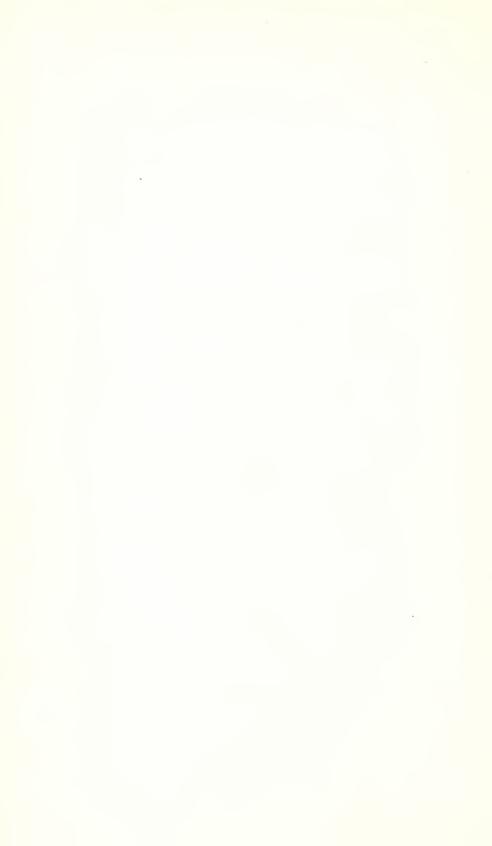
- ' How wond'rous is this scene! where all is form'd
- 'With number, weight, and measure! all design'd
- ' For some great end! where not alone the plant
- Gof stately growth; the herb of glorious hue,
- ' Or food-full substance; not the laboring steed,
- 'The herd, and flock that feed us; not the mine
- That yields us stores for elegance, and use;
- 'The sea that loads our table, and conveys
- 'The wanderer man from clime to clime, with all
- 6 Those rolling spheres, that from on high shed down
- 'Their kindly influence; not these alone,
- Which strike ev'n eyes incurious, but each moss,
- ' Each shell, each crawling insect holds a rank
- ' Important in the plan of Him, who fram'd
- 'This scale of beings; holds a rank, which lost
- Would break the chain, and leave behind a gap
- Which Nature's self would rue. Almighty Being,
- <sup>c</sup> Cause and support of all things, can I view
- 'These objects of my wonder; can I feel
- 'These fine sensations, and not think of thee?
- 'Thou who dost thro' th' eternal round of time;
- ' Dost thro' th' immensity of space exist
- ' Alone, shalt thou alone excluded be
- ' From this thy universe? Shall feeble man
- 'Think it beneath his proud philosophy
- ' To call for thy assistance, and pretend
- 'To frame a world, who cannot frame a clod?---
- Not to know thee, is not to know ourselves?
- ' Is to know nothing—nothing worth the care
- ' Of man's exalted spirit-all becomes
- 'Without thy ray divine, one dreary gloom;
- Where lurk the monsters of phantastic brains,
- ' Order bereft of thought, uncaus'd effects,

- Fate freely acting, and unerring Chance.
- WHERE meanless matter to a chaos sinks
- Or something lower still, for without thee
- 'It crumbles into atoms void of force,
- ' Void of resistance—it eludes our thought.
- 'Where laws eternal to the varying code
- Of self-love dwindle. Interest, passion, whim
- ' Take place of right and wrong, the golden chain
- Of beings melts away, and the mind's eye
- Sees nothing but the present. All beyond
- 'Is visionary guess—is dream—is death.'

\*\*\* The Editor takes this opportunity of repeating his obligations to the reverend *Hugh Davies* for the vast additions made to this volume; his valuable communications are distinguished by an *asterisk*: the Editor, in this, as in the preceding volumes, is answerable for those parts included in a *crotchet*. Ed.

On examining the complete copy of this new Edition, which has been sent to him previous to its publication, the Editor is extremely sorry to find, that owing to his not having seen impressions of the PLATES to the fourth Volume, (and a few of the third,) after the inscriptions and references had been engraved upon them, a number of mistakes have been committed. The correction of these, by reference to the description, in the text, or the List of Plates prefixed to the Volume, is a matter of great ease; but to save trouble to the reader, a list of them will be found at the end of this Volume.

October, 1812.



## LIST OF PLATES.

#### VOL. IV.

#### CLASS V. CRUSTACEOUS.

### GENUS I. CRAB.

Frontispiece.

PLATE I. Fig. 1 Pea CRAB.

III.

 $\mathbf{v}$ .

- 2 Minute CR.
- 3 Long-horned CR.
- 4 Broad-footed CR.
- II. 1 Common CR.
  - 2 Cleanser CR.
  - Black-clawed CR.
- IV. 1 Velvet Cr.
  - .v. 1 velvet Ok.
    - 2 Cleanser Cr. Var.
    - 1 Wrinkled Cr.
      - 2 Angular CR.
- VI. 1 Bristly CR.
  - 2 Great-clawed Cr.
- VII. Long-clawed Cr. M. and F.
- VIII. 1 Spinous Cr.
  - 2 Four-forked CR.
  - IX. 1 Spider CR.
    - Var.
    - 3 Slender-legged CR.
    - X. 1 Weymouth CR.
      - 2 Uneven Cr.
      - 3 Rough CR.

#### GENUS II. LOBSTER.

PLATE XI. Fig. Common LOBSTER.

XII. Spiny Lo.

XIII. 1 Norway Lo.

2 Phantom Lo.

XIV. Long-clawed Lo.

XV. Plated Lo.

XVI. 1 Craw-fish Lo.

2 Shrimp Lo.

XVII. 1 Prawn Lo.

2 Linear Lo.

XVIII. Hermit Lo.

#### ONISCI, &c.

XIX. 1 ONISCUS Psora.

2 On. linearis.

3 On. marinus.

4 On. oceanicus.

5 On. entomon.

6 On. cestrum.

7 PHALANGIUM Balænæ.

#### CLASS VI. WORMS.

#### DIV. I. INTESTINAL.

XX. I Greater Dew-worm.

2 Lesser Dew-worm.

3 Lug Dew-worm.

XXI. 1 Marine HAIR-WOR

1 Marine HAIR-WORM. 2\*2 Naked Tube-worm.

3 Geometrical Leech, (from Roe-

sel's Insects.)

4 Tuberculated Leech.

5 Glutinous HAG. (See vol. iii. 109.)

#### DIV. II. MOLLUSCA.

PLATE XXII. Fig. Tawny Aplysia

XXIII. 1 Depilatory Ap.

2 Warty Doris.

XXIV. Lemon Doris.

XXV 1 Aculeated APHRODITA.

2 Scaled Aph.

3 Scarborough Ascidia.

XXVI. 1 Amber Doris.

2 Pedunculated APHRODITA.

3 Annulated APH.

4 Little APH.

XXVII. 1 Blue Nereis.

2 Red N.

\*2 Var.?

XXVIII. 1 Five-rowed HOLOTHURIA.

2 A. Terebella conchilega.

XXIX. Great CUTTLE.

XXX. Eight-armed C.

XXXI. 1 Middle C.

2 Small C.

XXXII. 1 Dotted ASTERIAS.

2 Hispid Ast.

XXXIII. Flat Ast.

XXXIV. 1 Lizard Ast.

2 Beaded Ast.

XXXV. Pectinated Ast.

XXXVI. 1 Eatable Echinus.

2 Oval Ech.

XXXVII. Purple Ech.

XXXVIII. 1 Echinus pulvinulus.

2 LEPAS convexula.

3 Variable RAZOR SHELL (perfect).

#### Div. III. SHELLS.

#### \* MULTIVALVE.

PLATE XXXIX. Fig. 1 Hairy CHITON.

2 Marginated Сн.

XXXIX: 3 Smooth CH.

XL. 1 Common Acorn Shell.

2 Sulcated A.

3 Cornish A.

4 Elongated A.

XLI. 1 Striated A.

2 Anatiferous A.

XLII. 1 Dactyle Pholas.

2 White Pн.

XLIII. 1 Curled PH.

2 Little Pн.

#### \*\* BIVALVE.

XLIV. Abrupt MyA.

XLV. Sand M.

XLVI. 1 Painter's M.

2 Pearl M.

XLVII. Dubious M.

XLVIII. 1 Pod RAZOR SHELL.

2 Scymeter R.

XLIX. 1 Sheath R.

2 Pellucid R.

3 Sub-oval R.

4 Kidney R.

L. 1 Delicate MyA.

2 Variable RAZOR SHELL (worn).

3 Rayed Tellina.

LI. 1 Flat T.

2 Plain T.

PLATE LII. Fig.	1	Simpleton	MACTRA.
-----------------	---	-----------	---------

2 Solid TELLINA.

\*2 Var.

3 Horny T.

LIII 1 Aculeated COCKLE.

2 Fringed C.

3 Edible C.

LIV. 1 Smooth C.

2 Chione VENUS.

3 Strong MACTRA (old).

LV. 1 Subtruncated M.

2 Strong M.

3 Large M.

Icelandic VENUS.

LVII. 1 Warted V.

LVI.

2 Casina V.

3 Antiquated V. (Var.)

LVIII. 1 Yellow Donax.

2 Purple D.

3 Waved VENUS.

4 Indented V.

5 Maiden V.

LIX. 1 Antiquated V.

2 Wrinkled V.

3 Oval V.

LX. 1 Golden V.

2 Decussated V.

3 Fading V.

LXI. 1 Orbicular ARCA.

2 Fringed A.

LXII. Great Scallop.

LXIII. 1 Lesser Sc.

2 Red Sc.

LXIV. 1 Variegated Sc.

2 Writhed Sc.

3 Worn Sc.

LXV. Larger Anomia. This adheres to the Common Oyster.

#### LIST OF PLATES.

PLATE	LXVI.	Fig.	1	Rugged	$\mathbf{Mussel}.$
-------	-------	------	---	--------	--------------------

2 Edible M.

3 Pellucid M.

LXVII. 1 Crooked M.

2 Great M. (Young).

3 Nacre RAZOR SHELL.

LXVIII. Umbilicated Mussel.

LX1X. Great M.
LXX. Swan M.
LXXI. Duck M.

LXXII. Brittle PINNA.

#### \*\*\* UNIVALVE.

#### With a regular Spire.

LXXIII. 1 Common Gowrie.

2 Wood DIPPER.

3 Cylindric D.

4 Open D.

LXXIV. 1 Oval VOLUTE.

2 Transparent DIPPER.

LXXV. 1 Massy Whelk.

2 Reticulated W.

\*2 (Var.)

LXXVI. Waved W. LXXVII. Striated W.

LXXVIII. Corvorant's foot STROMBUS.

LXXIX. 1 Urchin MUREX.

2 Horny M.

LXXX. Angulated M. Engraven also in

Frontispiece.

LXXXI. Antique M.

LXXXII. 1 Polished SNAIL.

2 Ribbed Murex.

3 Shortened M.

4 Lipped WREATH.

5 Bamffian Murex.

6 Spot Whelk.

PLATE	LXXXII.	Fig.	7	Various colored Murex.
			^	TX71-1/- TX7

- 8 White WREATH.
- 9 Bilineated WHELK.
- LXXXIII. 1 Livid Top.
  - 2 Conule T.
  - 3 Umbilical T.
  - 4 Tuberculated T.
  - 5 Land T.
- LXXXIV. 1 Perriwinkle WREATH.
  - 2 Barred WR.
  - \*2 --- (Var.)
  - 3 Doubled WR.
  - 4 Auger  $W_R$ .
  - 5 Bident WR.
  - LXXXV 1 Studded Murex.
    - 2 Elegant WREATH.
    - 3 Dusky WR.
    - 4 Smooth SNAIL.
    - 5 Fasciated S.
- LXXXVI. 1 Rock S.
  - 2 Flat S.
  - 3 Horny S.
  - \*3 --- (Young).
  - 4 Whirl S.
- LXXXVII. 1 Exotic S.
  - 2 Viviparous S
  - 3 Garden S.
- LXXXVIII. 1 —— (Young).
  - 2 Zoned S.
  - 3 Streaked S.
  - 4 Shrub S.
  - 5 Grey S.
  - 6 Mottled S.
  - LXXXIX.
- 1 Lake S.
- 2 Marsh S.
- 3 Mud S.
- 4 Ear S.

#### LIST OF PLATES.

PLATE LXXXIX. Fig. 5 Eight-spired SNAIL.

6 Olive S.

7 Laver WREATH.

8 Smoothed SNAIL.

XC. 1 Livid NERITE.

D' M

2 River N.

3 Strand N.

XCI. Tuberculated HALIOTIS.

B. Without a regular Spire.

XCII. 1 Common Limpet.

2 ---- (Var.)

3 Striated L.

XCIII. 1 Bonnet L.

2 Inclining L.

3 Slit L.

4 Transparent L.

\*4 ---- (Var.)

5 Common Tooth-shell.

XCIV. 1 Spiral SERPULE.

2 Complicated S.

3 Twined S.

XCV. 1 Honey-combed SABELLA.

2 Tube SA.

## CLASS V.

CRUSTACEA.

CRUSTACEOUS ANIMALS.



## CLASS V.

## CRUSTACEOUS ANIMALS.

#### GENUS I. CANCER. CRAB.

FEET eight or ten, rarely six, two of them clawed.

Eves two, remote, for the most part fixed on a stalk, moveable.

Tall foliated, and short, lodged in a groove in the body.

C. Lin. Syst. 1039. Gm. Lin. Herlst. Canc. 95. t. 2. f. 1. PISUM. 2964.

CR. With rounded and smooth thorax, entire and blunt. With a tail of the size of the body, which commonly is of the bulk of a pea.

Inhabits the mussel, and unjustly has acquired the repute of being poisonous. The swelling after eating of mussels is wholly constitutional; for one that is affected by it, hundreds remain uninjured. Tab. i. fig. 1.

Crabs, either of this kind, or allied to them, the antients believed to have been the consentaneous inmates of the pinnæ, and other bivalves; which being too stupid to perceive the approach of their prey, were warned of it by their vigilant friend. Oppian tells the fable prettily.\*

#### Οσφακον αυ βυζιας, &c.

In clouded deeps below the Pinna hides, And thro' the silent paths obscurely glides; A stupid wretch, and void of thoughtful care, He forms no bait, nor lays the tempting snare. But the dull sluggard boasts a Crab his friend, W hose busy eyes the coming prey attend. One room contains them, and the partners dwell Beneath the convex of one sloping shell; Deep in the wat'ry vast the comrades rove, And mutual int'rest binds their constant love; That wiser friend the lucky juncture tells, When in the circuit of his gaping shells Fish wand'ring enter: then the bearded guide Warns the dull mate, and pricks his tender side; He knows the hint, nor at the treatment grieves, But hugs th' advantage, and the pain forgives: His closing shells the Pinna sudden joins, And 'twixt the pressing sides his prey confines; . Thus fed by mutual aid, the friendly pair Divide their gains, and all the plunder share.

<sup>\*</sup> Halicut. lib. ii. He calls the crab Πιγγοφυλαξ, custos Pinnæ.

#### CLASS.V. CANCER. CRAB.

C. Lin. syst. 1040. Gm. Lin. Baster, ii. p. 26. tab. iv. f. 2. Minutus. 2965. Gronov. Zooph. No. 1. 2. Minute. 962. Herbst. Canc. 110. t. 2. f. 32.

CR. with a smooth and somewhat square thorax; the edges sharp; horns short; less than the last.

Inhabits our shores among Alga. Tab. i. fig. 2.

C. Lin. Syst. 1040. Gm. Lin. Baster, ii. p. 26. tab. iv. f. 3. 3. Longi2966. Gronov. Zooph. No. Herbst. Canc. 99. t. 2. f. 23. CORNIS.
4068.

CR. with a round smooth thorax; with large claws; very long horns; size of the last.

Inhabits our shores. Tab. i. fig. 3.

Cancer latipes. Rondel. 565. variegatus. Plancus, 34. tab. 4. LATIPES.
Gronov. Zooph. No. 954. iii. fig. 7. Broadfoot.

Cancer latipes parvus oblongus Herbst. Canc. 267. t. 21. f.

126.

CR. with a sub-cordated body; short feelers; angular claws; five small teeth on each side; the hind legs ovated. Tab. i. fig. 4.

5. Mænas. C. Lin. Syst. 1043. Gm. Lin. Common. 2971. Baster, ii. tab. ii. f. 1.

Faun. Suec. No. 2026, Gronov. Zooph. 955. Herbst. Canc. 145. t. 7, f. 46.

CR. with three notches on the front; five serrated teeth on each side; claws ovated; next joint, toothed; hind feet subulated; dirty green color; red when boiled.

Inhabits all our shores; and lurks under the Alga, or burrows under the sand. Is sold, and eaten by the poor of our capital. Tab. ii. fig. 1.

6. Depura- C. Lin. Syst. 1043. No. 23. Seb. Mus. iii. tab. xviii. fig. 9.
TOR. Gm. Lin. 2972. Herbst. Canc. 148. t. 7. f. 48.

CR. with a sub-cordated body; thorax on each side quinque-dentated; front indented; claws angulated; second joint spined; hind legs have the two last joints ovated and ciliated. *Tab.* ii. fig. 2.

(VAR. A.) With a tuberculated surface.

Inhabits generally the deeps; feeds on dead fish: hence called *the purifier* or *cleanser*, as causing the removal of putrid bodies. *Tab.* iv. fig. 2.

C. Lin. Syst. 1044. Gm. Lin. pisc. 560. Faun. Suec. No. 7. PAGURUS. 2973. Gronov. Zooph. No. 2028. Black-clawed. 967. Merret's Pinax.

Belon. aquat. 368. Rondel. Herbst. Canc. 165. t. 9. f. 59.

CR. with a crenated thorax; smooth body; quinque-dentated front; smooth claws with black tips; hind feet subulated.

Inhabits the rocky coasts; the most delicious meat of any; casts its shell between *Christmas* and *Easter*.

The tips of the claws of this species are used in medicine; intended to absorb acidities in the stomach and bowels. *Tab.* iii.

Herbst. Canc. 242. t. 17. f. 95.
Lin. Tr. ii. 357.
C. thorace cordato rugoso no-

duloso, rostro bifido, pone oculos dente crasso, manibus pedibusque teretibus. H.  $Davies\ Mss$ .

8. Bufo. Toad.

\* On the back are four elevations, two occupy the hinder part, the other two the foremost.

Herbst's figure is imperfect with regard to the Antennæ; but an accurate drawing of it was presented to the Linnean Society in January 1793, by the Rev. Hugh Davies, who discovered the species in the Menai on the Anglesey coast in the year 1792.

9. VELUTI-NUS. Velvet.

Herbst. Canc. 151. t. 7. f. 49.

CR. with the thorax quinque-dentated; body covered with short brown velvet-like pile; claws covered with minute tubercles; small spines round the top of the second joint; hind legs broadly ovated. This is among the species taken notice of by Aristotle\* on account of the broad feet, which, he says, assist them in swimming: as web-feet do the water-fowl.

Inhabits the western coasts of Anglesey. Tab. iv. fig. 1.

GATUS.
Wrinkled.

Herbst. Canc. 151. t. 7. f. 50.

CR. with the thorax quinque-dentated; serrated; body wrinkled transversely; claws furnished with a single spine on the first and second joint; fangs serrated; last pair of legs evated.

Found on the shores of Skie, opposite to Loch Jurn. Tab. v. fig. 1.

11. ANGULA-TUS. Angular. Herbst. Canc. 85. t. i. f. 13.

CR. with a rectangular body; the thorax armed near the corner with two spines; the claws very

<sup>\*</sup> De Part. Anim. lib. iv. c. 8.

long; the upper fangs black; legs slender and subulated.

Weymouth. From the PORTLAND cabinet. Tab. v. fig. 2.

C. Lin. syst. 1045. Gm. Lin. Cancer hirsutus. Rondel. 568. 12. HIRTEL2077. Faun. Suec. No. Herbst. Canc. 152. t. 7. f. 51.
2029.

CR. with a hairy thorax; on both sides slightly quinque-dentated; claws ovated, slightly echinated, and hairy; feet, bristly and subulated. A small species; of a reddish color.

Found beneath stones. Tab. vi. fig. 1.

Herbst. Canc. 102. t. 2. f. 26.

13. PLATY-CHELES. Great-clawed.

CR. with a tridentated front; thorax entire; claws of a large size; depressed, and greatly ciliated on the outside; only three subulated legs on each side; body little bigger than a horse-bean, and almost round; Antennæ very long and turning back, when not in use.

Inhabits the Algæ on the coast of Anglesey, and the Hebrides. Tab. vi. fig. 2.

Herbst. Canc. 195. t. 12. f. 72.

14. CASSIVE-LAUNUS. Long-clawed.

CR. with bifurcated front; a spine at the corner of each eye; another on each side of the thorax towards the tail; body ovated and smooth;

Antennæ of the length of the body; the claws above; as long again as the body: feet subulated. Tab. vii. fig. inf.

The supposed female; of the same form; only the claws not half so long. *Tab.* vii. *fig. sup.* 

Inhabits the deep near Holyhead and Red-Wharf, Anglesey. Dredged up.

15. FLORI-DUS. Purplish brown. Cancer. Gm. Lin. 2968. Lin. Tr. ix. 85. t. 2. f. 1. fig. 120. Seb. Mus. iii. t. 19. f. 18. Herbst. Canc. 264. t. 21.

\* Cr. with a front slightly emarginate: Antennæ minute; thorax quadrilobate, smooth, uneven, of a purplish brown; claws large and strong; legs eight, short; length two inches, breadth two inches and an half.

Sent from Scotland to Mr. Montagu.

16. Maja. Spinous. Cancer Maja. Gm. Lin. 2979.
C. spinosus. Seb. Mus. iii. tab. xxii. f. 1. Gronov. Zooph. No. 973.

Fans, Trold Crabber. Pontop.
Norway ii. 176. tab. p. 177.
Herbst. Canc. 219. t. 15. f. 87.
C. horridus. Br. Zool. iv. 7.

Cr. with a projecting bifurcated snout, the end diverging; body heart-shaped; and with the claws and legs covered with long and very sharp spines. A large species.

Inhabits the rocks on the eastern coast of Scotland. Common to Norway and Scotland, as many of the marine animals and birds are. Tab. viii. fig. 1.

#### Herbst. Canc. 235.

17. TETRA-ODON. Four-forked.

CR. with a quadri-furcated snout; the two middle spines the longest; thorax spiny; body heart-shaped and uneven; claws long; legs slender.

Inhabits the Isle of Wight. Tab. viii. fig. 2.

Cancer. Lin. syst. 1044. Gm. Faun. Suec. No. 2030. Jon- 18. ARANE-Lin. 2976. ston Exang. tab. v. fig. 13. Spider.

CR. with a bifid snout; bristly thorax; body, heart-shaped, and tuberculated; claws long and oblongly ovated; legs slender, long and subulated. Tab. ix. fig. 1.

Inhabits our shores. Often covered with a byssus, as in specimen. Tab. ix. fig. 2.

Cancer. Scorpio. Gm. Lin. 2978. Herbst. Canc. 237. Lin. Tr. vi. 389. t. 31.

19. PHALAN-GIUM. Slender-leg'd.

CR. with a bifid snout; heart-shaped, small tuberculated body; long claws; legs of a vast length, very slender, and hairy.

Inhabits the depths on the coasts of Anglesey.\* Tab. ix. fig. 3.

\* Invests itself occasionally in leaves of Fuci to ensnare its prey. Ep.

20. Dorset-Tensis. Weymouth. Herbst. Canc. 235.

CR. with a cordated body, rugged and bent, with a few spines; very thick, and long claws; and very slender legs, the first pair much longer than the rest.

Weymouth. From the PORTLAND cabinet. Tab. x. fig. 1.

21. Tuberosus. Uneven. Herbst. Canc. 236.

CR. with a tuberous, smooth back; small claws, and short legs; snout slightly bifid.

From the same cabinet. Tab. x. fig. 2.

22. Tume-Factus. Swolen backed. Lin. Tr. ix. 86. t. 2. f. 3.†

\* Cr. with an entire front, forming the segment of a circle; antennæ minute; thorax bluntly rhomboidal, entire, smooth, with three elevations near the hinder angle; claws of a moderate size; legs eight, small; smoother and of a paler color than the preceding species, to which it bears a strong resemblance.

Taken at Weymouth by Mr. Bryer.

† This reference and that in sp. 24 were erroneously transposed in pp. 86, 87, of the ninth volume of the Linnaan Transactions.

#### Herbst. Canc. 236.

23. ASPER Rough.

CR. with a cordated body; bifid snout; legs and claws short; those and the body rough and spiny.

From the Portland cabinet. Tab. x. fig. 3.

## Lin. Tr. ix. t. 2. f. 2.

24. DENTI«
CULATUS
Denticulated.

\* Cr. with a front of five subconic divisions, the middle one longest; the foremost half of the thorax nearly the segment of a circle, the hinder contracted and subangular, the whole uneven and rough; each side divided into five bluntly pointed processes, besides one over each eye; eyes very prominent; claws of a moderate size; greatest diameter rather less than an inch.

Communicated to Mr. Montagu by the late Mr. Boys from the coast near Sandwich.

## GENUS II. ASTACUS. LOBSTER.

Body cylindric.
Antennæ long.
Tail long.

1. G<sub>AMMA</sub>- Cancer. Lin. Syst. 1050. Gm. Herbst. Canc. ii. 42. t. 25.

RUS. Lin. 2985. f. 1.

Astacus. Rondel. 538.

L. With a smooth thorax; short serrated snout; very long antennæ; and between them two shorter, bifid; claws and fangs, large, the greater tuberculated, the lesser serrated on the inner edge; four pair of legs; six joints in the tail; caudal fins rounded.

Inhabits all the rocky shores of our island; but chiefly where there is a depth of water. In Llyn, in Caernarvonshire, a certain small lobster, nothing different except in size, burrows in the sand.

Brought in vast quantities from the *Orkney* isles, and many parts of the eastern coast of *Scotland*, to the *London* markets. Sixty or seventy thousand are annually brought, in

well-boats, from the neighborhood of *Montrose* alone.\*

Lobsters fear thunder; and are apt to cast their claws on a loud clap. I am told they will do the same on firing a great gun; and that when men of war meet a lobster-boat, a jocular threat is used, That, if the master does not sell them good lobsters, they will salute him.

The habitation of this species is in the clearest water; at the foot of rocks that impend over the sea. This has given opportunity of examining more closely into the natural history of the animal, than of many others who live in an element that prohibits most of the human researches, and limits the inquiries of the most inquisitive. Lobsters are found on most of the rocky coasts of Great Britain. Some are taken by the hand; but the greater quantity in pots, a sort of trap formed of twigs, and baited with garbage; they are formed like a wire mouse-trap, so that when the lobster gets in, there is no return. These are fastened to a cord sunk into the sea, and their place marked by a buoy.

They begin to breed in the spring, and continue breeding most part of the summer. They propagate *more humano*; and are extremely

<sup>\*</sup> Tour in Scotland, 1772. part ii. p. 146.

prolific. Doctor Baster says he counted 12,444 eggs under the tail, besides those that remained in the body, unprotruded. They deposit these eggs in the sand, where they are soon hatched.

Lobsters change their crust annually. vious to their putting off their old one, they appear sick, languid, and restless. They totally acquire a new coat in a few days; but during the time that they remain defenceless they seek some very lonely place, for fear of being attacked and devoured by such of their brethren that are not in the same weak situation.

It is also remarkable, that Lobsters and Crabs will renew their claws, if by accident they are torn off; and it is certain they will grow again in a few weeks.

They are very voracious animals, and feed on sea-weeds, on garbage, and on all sorts of dead bodies.

In addition to this, I beg leave to give an accurate account of the natural history of this animal, communicated to me by the ingenious Mr. Travis, surgeon, at Scarborough.

# ' Scarborough, 25th Oct. 1768.

## 'SIR,

We have vast numbers of fine Lobsters on the rocks, near our coast. The large ones are in general in their best season from the middle

of October till the beginning of May. Many of the small ones, and some few of the larger ' sort, are good all the summer. If they be four ' inches and a half long or upwards, from the tip of the head to the end of the back shell, 'they are called sizeable Lobsters. If only four inches, they are esteemed half size; and ' when sold, two of them are reckoned for one of size. If they be under four inches, they ' are called pawks, and are not saleable to the carriers, though, in reality, they are in the summer months superior to the large ones in ' goodness. The pincers of one of the lobster's ' large claws are furnished with knobs, and those of the other claw are always serrated. With the former it keeps firm hold of the stalks of ' submarine plants, and with the latter it cuts and minces its food very dextrously. ' knobbed or numb claw, as the fishermen call ' it, is sometimes on the right and sometimes on the left, indifferently. It is more dangerous to be seized by them with the cutting claw than the other; but in either case, the quickest way to get disengaged from the creature is to pluck off its claw. It seems pecu-' liar to the Lobster and Crab, when their claws ' are pulled off, that they will grow again, but ' never so large as at first.

'The female or hen Lobster does not cast ' her shell the same year that she deposits her ova, or, in the common phrase, is in berry. When the ova first appear under her tail, they ' are very small and extremely black; but they become in succession almost as large as ripe elder-berries before they be deposited, and 4 turn of a dark brown color, especially towards ' the end of the time of her depositing them. ' They continue full and depositing the ova in constant succession, as long as any of that 6 black substance can be found in their body, which, when boiled, turns of a beautiful red ' color, and is called their coral. Hen Lobsters are found in berry at all times of the year, but ' chiefly in winter. It is a common mistake, ' that a berried hen is always in perfection for ' the table. When her berries appear large and brownish, she will always be found ex-' hausted, watery, and poor. Though the ova be cast at all times of the year, they seem only to come to life during the warm summer 6 months of July and August. Great numbers of them may then be found, under the appearance of tadpoles, swimming about the little opools left by the tides among the rocks, and 6 many also under their proper form, from half f an inch to four inches in length.

' In casting their shells, it is hard to conceive ' how the Lobster is able to draw the fish of their large claws out, leaving the shells entire and attached to the shell of their body; in which state they are constantly found. The fishermen say the Lobster pines before cast-' ing, till the fish in its large claw is no thicker ' than the quill of a goose, which enables it to draw its parts through the joints and narrow ' passage near the trunk. The new shell is quite membraneous at first, but hardens by ' degrees. Lobsters only grow in size while their shells are in their soft state. They are ' chosen for the table, by their being heavy in ' proportion to their size; and by the hardness of their shells on their sides, which, when in ' perfection, will not yield to moderate pressure. Barnacles and other small shell-fish adhering to them are esteemed certain marks of superior goodness. Cock Lobsters are in ' general better than the hens in winter; they ' are distinguished by the narrowness of their ' tails, and by their having a strong spine upon the center of each of the transverse processes beneath the tail, which support the four mid-' dle plates of their tails. The fish of a Lobster's claw is more tender, delicate, and easy of digestion than that of the tail. Lobsters

are not taken here in pots, as is usual where the water is deeper and more still than it is ' upon our coast. Our fishermen use a bag-' net fixed to an iron hoop, about two feet in diameter, and suspended by three lines like ' a scale. The bait is commonly fish-guts tied ' to the bottom and middle of the net. can take none in the day-time, except when ' the water is thick and opake; they are com " monly eaught in the night, but even then it is of not possible to take any when the sea has that ' luminous appearance which is supposed to \* proceed from the nereis noctiluca. In sum mer, the Lobsters are found near the shore, ' and thence to about six fathoms depth of ' water; in winter, they are seldom taken in ' less than twelve or fifteen fathoms. 6 other insects, they are much more active and alert in warm weather than in cold. water they can run nimbly upon their legs or . small claws, and if alarmed can spring tailforemost, to a surprising distance, as swift as a bird can fly. The fishermen can see them 6 pass about thirty feet, and by the swiftness of 6 their motion, suppose they may go much farther. Athenaus remarks this circumstance, 6 and says, that the incurvated Lobsters will \* spring with the activity of dolphins. Their

- ' eyes are raised upon moveable bases, which ' enables them to see readily every way. When
- frightened, they will spring from a consider-
- able distance to their hold, in the rock; and
- what is not less surprising than true, will
- throw themselves into their hold in that man-
- ' ner, through an entrance barely sufficient for
- their bodies to pass; as is frequently seen by
- the people who endeavour to take them at
- ' Filey Bridge. In frosty weather, if any hap-
- ' pen to be found near the shore, they are quite
- ' torpid and benumbed. A sizeable Lobster is
- commonly from one pound to two in weight.
- 'There was one taken here this summer which
- weighed above four, and the fishermen say
- they have seen some which were of six pounds,
- but these are very rare.

' I am, Sir, &c.'

I conclude with saying, that the Lobster was well known to the antients, and that it is well described by Aristotle, under the name of Αστακος; \* that it is found as far as the Hellespont, and is called, at Constantinople, † Liczuda, and Lichuda, Tab. xi.

<sup>\*</sup> Hist. an. lib. iv. c. 2. + Belon Hist. Poissons. 357.

2. Homarus. Cancer. Lin. Syst. 1053. Gm. Herbst. Canc. ii. 84. t. 31. Spiny. Lin. 2988. f. 1.

Locusta. la Langouste. Ron- Palinurus homarus. Bosc.

del. pisc. 535.

Hist. nat. des Crust. ii. 92.

L. with a broad front, armed with two large spines, and between them a smaller, guards to the eyes, which are prominent; antennæ longer than body and tail, spiny at their origin; beneath them two lesser; claws short, small, smooth; fangs small, single, hinged; legs slender and smooth; body and thorax horrid with spines; tail longer than that of the common Lobster; on each part, above, is a white spot, the bottoms are crooked and serrated; the tail-fin, partly membranaceous, partly crustaceous.

Inhabits our rocky coasts; often taken about the promontory of Llyn, and Bardsey isle.

The French name of this species has been barbarously translated into the Long-oyster. Tab. xii.

3. Arctus. C. Lin. syst. 1053. No. 75. Squilla lata. Rondel. 545.

Broad. Gm. Lin. 2993. Faun. Suec. Herbst. Canc. ii. 80. t. 30.

No. 2040. f. 1.

L. with two broad serrated plates before the eyes; short furcated antennæ; body and tail flat and broad.

Size of the spiny Lobster.

Found by Doctor Borlase on Careg Killas, in Mounts-Bay. Is common to the four quarters of the world.

 Cancer
 Norvegicus.
 Lin.
 ii. 175. tal. p. 177.
 4. Norvegistres

 Syst. 1053.
 Gm. Lin. 2989.
 Herbst. Canc. ii. 52. t. 26.
 cus. Norway.

 Sundfiord.
 Pontop. Norway.
 f. 3.

L. with a long spiny snout; thorax slightly spiny; body marked with three ridges; claws very long, angular, and (along the angles) spiny; antennæ long; legs slender, clawed; tail long, elegantly marked with smooth and short-haired spaces, placed alternately.

Common length, from tip of the claws to the end of the tail near nine inches. Tab. xiii. fig. 1.

Leo. Rondel. 542.

Herbst. Canc. ii. 58. t. 27.f.3.

5. Bamffius. Long-clawed.

L. with a smooth thorax, with three sharp slender spines in front; claws six inches and a half long, slender and rough; fangs strait; legs weak, bristly; antennæ slender, two inches and a half long; tail and body about five inches.

Taken near *Bamff*. Communicated to me by the Reverend Mr. *Cordiner*, and engraven from his beautiful drawing. *Tab.* xiv.

6. Strigo- Cancer. Lin. Syst. 1052. Gm. Herbst. Canc. ii. 49. t. 26. f. 2.

Sus. Plated. Lin. 2984. Galathea strigosa. Bosc. ii. 87.

L. with a pyramidal spiny snout; thorax elegantly plated; each plate marked near its junction with short strix; claws much longer than the body, thick, echinated, and tuberculated; the upper fang trifid; has three pairs of legs, spiny on their sides, and one pair much smaller; tail broad.

The largest of this species is about six inches long.

Inhabits the coasts of *Anglesey*; under stones and *fuci*. Very active. If taken, slaps its tail against the body with much violence and noise. *Tab.* xv.

7. Astacus. Cancer. Lin. Syst. 1051. Herbst. Canc. ii. 38. t. 23. f. 9. Craw-fish. Gm. Lin. 2985. Ast. fluviat. Bosc. ii. 62.

L. with a projecting snout slightly serrated on the sides; a smooth thorax; back smooth, with two small spines on each side; claws large, beset with small tubercles; two first pair of legs clawed; the two next subulated; tail consists of five joints; the caudal fins rounded.

Inhabit many of the rivers of *England*; lodged in holes, which they form in the clayey

banks. Cardan says that this species is a sign of the goodness of water; for in the best water, they are boiled into the reddest color.\* Tab. xvi. fig. 1.

Squilla Crangon. Rondel.547.
Cancer Squilla. Lin. Syst.
1051. Gm. Lin. 2988.
Faun. Suec. No. 2037.
Squilla Batava. Seb. Mus. iii.
p. 55. tab. xxi. fig. 9. 10.

Squilla fusca. Baster. ii. 30. 8. Squilla. tab. iii. fig. 5.

Squilla Gibba. Rondel. 549.

C. Squilla. Herbst. Canc. ii.

55. t. 27. f. 1.

Astacus serratus. Br. Zool.

iv. 19.

L. with a long serrated snout bending upwards; three pair of very long filiform feelers; claws small, furnished with two fangs; smooth thorax; five joints to the tail; middle caudal fin subulated; two outmost flat and rounded.

Frequent in several shores, amidst loose stones; sometimes found at sea, and taken on the surface over thirty fathoms depth of water; cinereous when fresh; of a fine red when boiled. Tab. xvii. fig. 1.

Astacus Squilla. Br. Zool. iv. 19.

9. ALBES-CENS. White.

L. with a snout like the prawn, but deeper and thinner; and feelers longer in proportion to the bulk; the sub-caudal fins rather larger; is at full growth not above half the size of the former.

\* Quoted by Plot. Hist. Staffords. 185.

Inhabits the coasts of *Kent*; is sold in *London* under the name of *the white shrimp*, as it assumes that color when boiled.

10. CRAN.
GON.
Shrimp.

Cancer Crangon. Lin. Syst. 1052. Gm. Lin. 2989. Squilla marina Batava. Baster. ii. 27. tab. iii. fig. 1. 11.

Ræsel insect. iii. tab. lxiii.

Herbst. Canc. ii. 75. t. 29.
f. 3. 4.

Crangon vulg. Bosc. ii. 96.

L. with long slender feelers, and between them two thin projecting laminæ; claws with a single hooked moveable fang; three pair of legs; seven joints in the tail; the middle caudal fin subulated; the four others rounded and fringed; a spine on the exterior side of each of the outmost.

Inhabits the sandy shores of *Britain*, in vast quantities. The most delicious of the genus. *Tab.* xvi. fig. 2.

RIS.
Linear.

Cancer. Lin. Syst. 1056? fig Lesser garnel or shrimp. Marten's Spitzberg. 115. tab. P.

fig. 1. Herbst. Canc. ii. 142. t. 26. f. 9. A. 10. B.

L. with long slender claws, placed very near the head, with a slender body, and six legs on each side; is about half an inch long.

Found in the sand, on the shore of Flint-shire; is very frequent in Spitzbergen. Tab. xvii. fig. 2.

Sowerby Brit. Misc. 47. t. 23.

12. Spinus. Spine-backed.

\*L. with four antennæ above half the length of the body; thorax with a serrated ridge, and a tooth on each side of it; third joint of the body with a spine; caudal fins five, the middle one subulate, the others oblong-oval, ciliated at the edges; length about one inch and three quarters.

Found among oysters on the Scottish coast.

Lin. Tr. vii. 66. t. 6. f. 3.
C. linearis. Gm. Lin. 2992.
C. Atomos, Lin. Syst. 1056.
Br. Zool. iv. p. 21. t. xii. f. 32.

Merum animalculum in coral- 13. Phasmalinis, &c. Baster. i. 43. tab. Phantom. 4. fig. 11.

\*L. with four antennæ, the upper pair of nearly the length of the body, the other pair half that length, with two unequal pairs of cheliform palpi, or feelers; two large imperfect claws, and six legs; body slender of six joints, the first joint armed with two spines, the second joint, and the head, with one spine each, all pointing forwards. Color olive-green. Length three quarters of an inch. Tab. xiii. fig. 2.

14. Locusta. C. Locusta. Gm. Lin. 2992. Oniscus Gammarellus. Pal-Looust. Faun. Suec. 2042. las Misc. Zool. t. 14. f. 25. Linn. Tr. ix. 92. tab. 4. fig. 1.

\*L. with four rather short antennæ, one pair about one third part longer than the other; body of fourteen joints, very smooth; on each of the three last joints of the body is a small fasciculus of spines; claws four, imperfect; legs ten, the four anterior, smaller; caudal fins five, subulate; color sandy; length about an inch.

Common on most of our shores.

15. Pulex. C. Lin. Syst. 1055. No. 81. Herbst. Canc. ii. 130. t. 36. Flea. Gm. Lin. 2992. f. 4. 5. Linn. Tr. ix. 93. t. 4. f. 2.

L. with five pair of legs, and two pair of claws imperfect; with twelve joints in the body.

Very common in fountains and rivulets; swims swiftly in an incurvated posture on its back; embraces and protects its young between the legs; does not leap.

\* Resembles much the *C. Locusta*; is about half its length; wants the *fasciculi* of spines; the color paler, and sometimes tinged with green.

C. saltator. Linn. Tr. ix. 94. Ræsel Insect. iii. tab. 62. 16. SALTAt. 4. f. 3. C. Locusta. Br. Zool. iv. 21. Tor.
Oniscus Locusta. Pallas Misc. Herbst. Canc. ii. 127. t. 36.
Zool. t. 14. f. 15. f. 1.

\*L. with two large antennæ of about equal length with the body, the foremost half ciliated at the joint, and two others minute; body oblong, compressed, very smooth, of twelve joints; eyes reticulated; legs twelve, the foremost pair very small; length about three quarters of an inch; color sandy.

The most common on all our sandy shores.

Cancer. Lin. Syst. 1056. Gm. Herbst. Canc. ii. 145.
Lin. 2993.

17. SALINUS, Salt.

L. with jointed body; hands without claws; antennæ shorter than the body; ten pair of legs; tail filiform, subulated; very minute.

Discovered by Doctor Maty in the salt pans at Lymington.

Cancer. Lin. Syst. 1056. Gm. Herbst. Canc. ii. 121. t. 35. 18. STAGNA-Lin. 2993. f. 8—10. LIS. Shaw in Linn. Tr. i. 103. t. 9.

L. with jointed body; legs eleven on each side; tail bifid; head of the male armed with two singular fangs.

Inhabits the crannies of rocks, in fresh waters; suspected by *Linnæus* to be the *larva* of an *Ephemera*.

[Accurately described by Dr. Shaw. Ed.

19. Mantis.

C. Lin. Syst. 1054. No. 76. Gm. Lin. 2990.

L. with short antennæ; short thorax, and two pinnated substances on each side; three pair of claws with hairy ends; the body long, divided by eight segments; two fins on each side of the tail; tail conoid, with spines on the margin.

Weymouth. From the PORTLAND cabinet.

20. Bernar- Cancer. Lin. Syst. 1049. Gm. Herbst. Canc. ii. 14. t. 22.

DUS. Lin. 2982. f. 6.

C. with rough claws; the right claw is the longer; the legs subulated, and serrated along the upper ridge; the tail naked and tender, and furnished with a hook, by which it secures itself in its lodging.

This species is parasitic, and inhabits the empty cavities of turbinated shells, changing its habitation according to its increase of growth, from the small *nerite*, to the large *whelk*. Nature denies it the strong covering behind, which it has bestowed on others of this class, and

therefore directs it to take refuge in the deserted cases of other animals.

Aristotle describes it very exactly under the name of Kagairior. \* By the moderns it is called the hermit, from retiring into a cell. Tab. xviii.

### Linn. Tr. ix. 88. t. 3. f. 1, 2.

21. Subtera RANEUS. Subterranea

\*L. with one pair of antennæ, of the length of the body, and a second pair between them, short and bifid; body long, smooth, of six segments; one claw very large, sometimes exceeding the body in size, compressed; legs eight; caudal fins seven, the middle one pointed, the others broad and rounded.

Length about two inches. Color different shades of yellow.

## Linn. Tr. ix. 89. t. 3. f. 5.

22. STELLA-

\*L. with a trifid serrated snout, and one pair Star-spotted. of antennæ of the length of the body, and a second pair short and bifid; the body is linear, of six smooth joints, anterior part of the thorax spinous; claws rather broad, imperfect, legs eight; caudal fins five, the middle one bifid. Length about two inches. Color sandy.

<sup>\*</sup> Hist. an. lib. iv. c. 4. lib. v. c. 15.

Muller Zool. Dan. ii. 34. t. 66. Linn. Tr. ix. 90. t. 5. f. 3. 23. Multi-PES.

Many-footed. \*L. with four antennæ of about the length of the thorax, the middle pair bifid; no snout or claws; body slender, of seven joints; legs very small, fourteen on each side; caudal fins five, the middle one bifid, the interior margins of the others ciliated. Length one inch.

24. GIBBOsus. Incurvated.

30

Linn. Tr. ix. 91. t. 5. f. 4.

\*L. with a direct, compressed, serrated snout, with two antennæ of about the length of the body, another pair short and bifid; body slender of six joints, the third joint somewhat elongated and curved. Color red. about an inch.

25. LITTO-REUS. Beach.

Linn. Tr. ix. 96. t. 4. f. 4. Baster. op. subs. ii. 31. t. 3. f. 7. 8.

\*L. with one (the lower) pair of antennæ of about half the length of the body, and another pair very short; the body very smooth, compressed, of twelve joints; claws two, large, flat, ovate, imperfect; caudal fins slenderer and shorter than those of C. Saltator; legs ten, the two foremost pairs much the smaller. Length about an inch. Color sandy.

### Lin. Tr. ix. 97. t. 4. f. 5.

26. Grossi-MANUS. Largehanded.

\*L. with one (the higher) pair of antennæ the longer, but somewhat shorter than the body, which is slender, compressed, smooth, of eleven joints; claws four, imperfect, the second pair larger, ciliated; legs ten, the four foremost much smaller; caudal fins five, forked. Length about half an inch. Color sandy.

# Lin. Tr. ix. 98. t. 4. f. 6.

27. TALPA.

Mole-handed.

\* L. with four, rather short antennæ, all ciliated at the ends, the outward pair double the length of the inner; body slightly depressed, of numerous joints, (about twenty); the hinder part contracted, much ciliated, and terminated with two long setiform appendages tufted with hairs; claws four, the first pair perfect, the second broad, flat, and toothed around with spines; legs ten, slender, the two hindmost pairs very hirsute. Length about four lines. Color pale sandy.

## Lin. Tr. ix. 99. t. 5. f. 1.

28. Rubricatus. Reddish.

\* L. with four antennæ, the higher pair nearly the length of the body, the foremost joints of VOL. IV.

all ciliated; body slender, compressed, smooth, of twelve joints; claws, two pairs of equal size, imperfect; legs ten; caudal fins two pairs, ends forked. Length half an inch. Color reddish.

29. FALCA-TUS.

Lin. Tr. ix. 100. f. 5. f. 2.

Hook-fanged. \* L. with four antennæ ciliated beneath; body slender, smooth, compressed, of twelve joints; claws, two pairs of very unequal size, imperfect, the second pair the larger, and spinous at the edges; legs ten, the two anterior pairs very minute. Caudal fins three pairs, subulate. Color varied crimson. Length half an inch.

30. Rном-BOIDALIS.

Lin. Tr. vii. 65. t. 6. f. 1.

Rhomboidal. \* L. with two antennæ not twice the length of the snout; front broad, contracted into a strait subulate snout; eyes remarkably prominent and reticulated; thorax somewhat obtusely quadrangular, with five large tubercles; claws two, equal, perfect, rather large; legs eight, subulate, with a spine beneath on the first joint of each. Color olive green. Length a quarter of an inch.

Found among sertulariæ.

### Lin. Tr. vii. 65. t. 6. f. 2.

31. MAXIL-LARIS. Great-jawed.

\* L. with four short antennæ; front concave, armed with two transverse denticulated maxillæ (or jaws); body oblong, of six joints, about twice its diameter in length; legs ten, subulate, uniform. Color brown. Length one-fourth of an inch.

### Lin. Tr. vii. 69. t. 6. f. 4.

32. PALMA-TUS. Flat-handed.

\* L. with four antennæ, somewhat unequal, and shorter than the body; one pair of large imperfect claws, and six strong legs; body compressed, of thirteen joints; caudal fins two pairs, subulate. Color yellowish green. Length three-eighths of an inch.

Lin. Tr. vii. 70. t. 6. f. 5. C. Esca. Gm. Lin. 2993.?

33. Score PIOIDES. Scorpion-tailed.

\* L. with a body somewhat oval, much compressed, of three joints; tail subulate, of eight articulations; caudal fins, two, subulate. A description of the head and concomitant parts cannot be given, as the unique subject was mutilated. Length quarter of an inch.

34. ARTICU-LOSUS. Jointed. Lin. Tr. vii. 70. t. 6. f. 6.

\* L. with two unequal pairs of rather short antennæ; claws two pairs, of a very singular construction. Legs ten; body compressed of ten joints; caudal fins flat, slender. Length half an inch.†

† The numerous additions to this genus were principally discovered by Mr. Montagu on the south coast of Devonshire. Ed.

### GENUS III. ONISCUS.

JAW truncated, denticulated.
LIP bifid.
FEELERS unequal, hinder the longest.
ANTENNÆ setaceous.
Body oval.
FEET fourteen.

Gm. Lin. 3010.

Idotea Psora. Bosc. Hist. des 1. Psora. Crust. ii. 80. Scurfy.

[O. WITH the abdomen smooth underneath; tail semi-oval, sharp pointed. Tab. xix. fig. 1.

Gm. Lin. 3011.?

Pallas spic. Zool. ix. 68. t. 4. 2. Linearis.

f. 17.\* 17.

Dentatetailed.

[O. with a sub-semicylindrical body; head slenderer; exterior antennæ less than the length of half the body, the intermediate very small; color brownish, with a paler stripe down the back. Tab. xix. fig. 2.

3. Marinus. Gm. Lin. 3011. Zool. ix. 66. t. 4. f. 6. A. Semicylin-O. balthicus. Pallas spic. B. C. D.

[O. with an hard subcylindrical body; tail ovateoblong pointed; length not exceeding an inch. *Tab.* xix. fig. 3.

4. Oceani- Gm. Lin. 3012.
Cus.
Bifid-tailed.

Ligia oceanicus. Bosc. Hist. des Crust. ii. 190.

[O. with a body of an oval form, tail bifid, each division also bifid. *Tab.* xix. *fig.* 4.

5. Entomon. Gm. Lin. 3010.

Four-fectered. Asellus marinus, cornubicasis alius. Raii ins. 43.

Pallas spic. Zool. ix. 64. t. 5. f. 1—6. Idotea entomon. Bosc. ii. 178.

[O. with an hard ovate body, growing slenderer towards the tail; tail oblong, of three hard imbricated pointed scales above, and one blunt beneath; antennæ four; color a dirty white, inclining to cinereous on the back; length more than two inches. Tab. xix. fig. 5.

6. ŒSTRUM. Gm. Lin. 3010. f. 13.
Six-plated. Pallas spic. Zool. ix. 74. t. 4. Idotea æstrum. Bosc. ii. 179.

[O. with a thick, oblong, softish body, becoming broader towards the tail; the abdomen covered

with six membranaceous, transversely striated scales or plates. *Tab.* xix. *fig.* 6.

Gm. Lin. 3009.

Pallas. spic. Zool. ix. 71.

t. 4. f. 12. Gronov. Zooph. 997. 7. Asilus. Two-plated.

[O. with an hard convex body; head narrower; tail semi-oval; abdomen of the female covered with two or three laminæ, which conceal the eggs; color of the back blackish brown.

This insect is found throughout the vast extent of the eastern and western oceans, in the *Mediterranean* and the northern seas, and infests all the softer species of fish.

Pallas spic. Zool. ix. 70. t. 4. f. 18. 18.\*

8. GLOBA-TOR. Pellet.

[O. much resembling the preceding species, but smaller; rolls itself like the land species, the O. Armadillo.

Adams in Lin. Tr. v. t. 8. f. 3, 4.

9. BIDENTA-TUS. Forked.

[O. with seven scales, the last bidentate; abdomen without plates; upper side marked with six transverse rows of ochreous spots; length half an inch. Observed in *Milford Haven*.

10. HIRSU-TUS. Hirsute. Mont. in Lin. Tr. vii. 71. t. 6. f. 7.

[O. with an oval body, having six convex hirsute joints, independent of the head and posterior plate; the latter large, convex, rounded at the end, furnished on each side with a long serrated fin; legs eight, provided with double claws; color variable brown; length one eighth of an inch.

11. CYLIN-DRACEUS. Cylindric. Mont. in Lin. Tr. vii. 71. t. 6. f. 8.

[O. with a smooth, glossy, cylindric, and very convex body; central caudal fin subovate, with two small lateral ones on each side; antennæ four, of unequal size; feet fourteen, armed with a single claw; color pale yellow, clouded with cinercous; length an inch, breadth less than a quarter of an inch. Ed.

12. Testu-Do. Tortoise. Mont. in Lin. Tr. ix. 102. t. 5. f. 5.

\* O. subovate, of eight joints, ridged along the back, the four first large, concealing the anterior legs. Front emarginate; antennæ four, short; tail obtuse. Color dull red. Length two lines.

### Mont. in Lin. Tr. ix. 103. t. v. f. 6.

13. GRACI-LIS. Slender.

\* O. slender, subcylindric, of eight joints; tail of five truncated divisions; antennæ four, short; the anterior pair of legs considerably the largest; color pale, clouded with rufous. Length five lines.

### Mont. in Lin. Tr. ix. 103. t. iii. f. 3, 4.

14. THORAcicus. Thoracie.

\* O. body obovate, distorted, of about fourteen indistinct joints, the eight foremost terminated at the ends, each with an oar-like cirrus, the six posterior joints have also cirri, branched at the ends into fasciculi or tufts. The female, like others of this genus, has large abdominal valves to protect the eggs, which in this are very numerous, and of a pale orange color. Color orange. Length scarcely half an inch. Inhabits the thorax of Cancer subterraneus.

#### Mont. in Lin. Tr. ix. 104.

15. SQUIL-LARUM. Prawn-thoracic.

\* O. body ovate, distorted, of thirteen joints, forming as many scallops at the sides. Color pale greenish. This is likewise a parasitic species, inhabiting the same part of the prawn as the former of C. subtervaneus; the distortion of

each is occasioned by their confined habitation. Length rarely half an inch.

16. LONGI-CORNIS. Long-horned.

42

Sowerby Br. Misc. 31. t. xv.

Long-horned. \* O. body of ten segments, the fourth as long as six others; antennæ of five joints; the eight fore legs hairy on the inside, the others smooth. Eyes black. Taken near Inch-Keith.

### GENUS IV. PHALANGIUM.

\* Mouth with two filiform palpi.

Mandibles horny, the second joint cheliform, with a moveable acute tooth.

Antennæ none. (Müller says Antennæ pediformes.)

Eyes four.

FEET eight.

ABDOMEN generally rounded.

Gm. Lin. 2942.

1. BALÆNA-RUM. Whale.

\* P. With two *palpi*; snout projecting, subulate; abdomen dilated, spiny.

Tab. xix. fig. 7.

Mont. in Lin. Tr. ix. 100. t. v. f. 7.

SPINO-SUM. Rufousbrown.

\* P. body linear, of five segments, snout long, cylindric, deflected; no feelers; legs long, slender, spinous. Color rufous brown. Length of the body one quarter of an inch.

3. Aculea-TUM.

Mont. in Lin. Tr. ix. 101. t. v. f. 8.

Dusky-black. \* P. body linear of five segments; snout cylindric, tubular, deflected; feelers four, the upper pair cheliform, the others minute; legs longer in proportion than those of the preceding species, slender and spinous. Color dusky black. Less than the last.

4. Hirsu-TUM. Hairy.

Lin. Tr. v. 7. t. ii. f. 1, 2.

\* P. body oval, flat, with ten angles, marked with a transverse band near the middle; the projecting part of the head serrated on the interior side; feet bristly; tail cylindrical, obtuse. Color pale brown. Length one third of an inch. Milford Haven.

5. Gros-SIPES.

Lin. Tr. ii. 357. Gm. Lin. 2942.

Large-footed. \* P. with four palpi; body filiform, cylindric; shoulders tuberculated; feet about six times the length of the body. Color a dull red.

Found in Anglesey and Milford Haven.

## CLASS VI.

# VERMES.

WORMS.

DIV. I. INTESTINAL.

II. MOLLUSCA.

III. TESTACEOUS.



## CLASS VI.

### VERMES.

#### WORMS.

MIHI CONTUENTI SESE PERSUASIT RERUM NATURA, NIHIL INCREDIBILE EXISTIMARE DE EA.

Plinii lib. xi. c. 3.

SLOW, soft, expanding, tenacious of life, sometimes capable of being new formed from a part; the enliveners of wet places; without head or feet; hermaphroditical; to be distinguished by their feelers.

Not improperly called by the antients, imperfect animals; being destitute of head, ears, nose, and feet, and for the most part of eyes; most different from insects; from which Linnæus has long since removed these works of Nature.

They may be divided into Intestinal,

SOFT OF MOLLUSCA,\* TESTACEOUS, LITHO-PHYTES, and ZOOPHYTES.

The Intestinal (heretofore styled the earthly) perforate all things by help of the great simplicity of their form. The Gordius pierces the clay, that the water may percolate; the Lumbricus, the common soil, least it should want moisture; the Teredo, wood, to promote its decay. In like manner, Pholades, and some sorts of mussels, penetrate even rocks, to effect their dissolution.

The Mollusca are naked, furnished with arms; for the most part wander through the vast tract of ocean; by their phosphoreous quality illuminate the dark abyss, reflecting lights to the heavens; thus what is below corresponds with the lights above.

These *Mollusca* often become the inhabitants of TESTACEOUS calcareous covers, which they carry about with them, and often they themselves penetrate calcareous bodies; like insects, are multiplied into infinite variety; and exhibit, both in form and colors, splendid

<sup>\*</sup> Mollusca signifies a tribe of animals which are so called as being *soft* or *fleshy*, and are destitute of any bones, those internal *fulcra* or props to the muscles of other animals,—Quadrupeds, Birds, Fishes, or Reptiles. H.D.

examples of the excelling powers of the allmighty Artificer. Nor are they without their uses; several species afford a delicious and nourishing nutriment. The healing art calls in the snail in consumptive cases; and the shells calcined are of known efficacy in stubborn acidities. Shells are the great manure of lands in many parts of these kingdoms. The pearls of *Great Britain* have been celebrated from the time of *Casar*.

## CLASS VI.

#### VERMES.

#### WORMS.

## DIV. I. INTESTINAL.

#### GENUS I. ASCARIS.

Body slender, filiform, attenuated at each end.

1. Vermicu-Laris. Vermicular. Ascaris. Lin. Syst. 1076. Gm. Lin. 3029.

Asc. with faint annular rugæ; thicker at one end than the other; mouth transverse.

Inhabits, according to *Linnæus*, boggy places, and under the roots of decayed plants; found in the *rectum* of children and horses; often observed in the dung of the last; emaciates children greatly; is sometimes vomited up.

2. MARINA.

Marine.

Gm. Lin. 3035. Gordius marinus. Lin. Syst. 1075.

Asc. filiform, twisted spirally and lying flat.

Common in the intestines of the herring and other sea-fish. Aristotle\* remarks that the Ballerus and Tillo are infested in the dog-days with a worm that torments them so much, that they rise to the top of the water, where the heat destroys them. Bleaks are observed to rise at certain seasons to the surface, and tumble about for a considerable space, in seeming agonies. I suspect them to be affected in the same manner with those Aristotelian fish. Tab. xxi. fig. 1.

Ascaris. Lin. Syst. 1076. Gm. Lin. 3029.

3. LUMBRI-COIDES. Common.

Asc. with a slender body, subulated at each end; but the tail triangular; grows to the length of nine inches; viviparous; and produces vast numbers.

Inhabits the human intestines.

Turton Br. Faun. 125. Redi opusc. iii. t. 17. f. 3.

4. CANIS.

[Asc. with head flattened, winged on each side with a membrane; tail pointed.

In the intestines of a dog.

\* Hist. an. lib. viii. c. 20.

5. Felis. Turton Br. Faun. 125. Redi an. viv. in an. viv. t. 13. f. 8.

[Asc. head with a greyish white oblong vesicle on each side, which is obtuse and pellucid on the hind part.

In the cat.

6. CATI. Turton Br. Faun. 125. Goeze Eingew. 80.

[Asc. head without the oblong vesicles on each side.

In the intestines of the cat.

7. Equi. Turton Br. Faun. 125. Goeze Eingew. 62. t. 1. f. 1-3.

[Asc. with a whitish cylindrical taper body, sometimes a foot and an half in length, and as thick as a man's little finger; often marked with brown patches.

In the horse.

S. CARBONIS. Turton Br. Taun. 125. Lin. Tr. v. 24.

[Asc. with a yellowish-brown body, coiled up into a ball or mass.

In the crop of the common Corvorant and of the Shag.

#### Turton Br. Faun. 126.

9. Lacus-

[Asc. body lying flat, spirally twisted, tapering at both extremities.

Found in the intestines of the Stickleback and liver of the Pike. ED.

#### GENUS II. TRICOCEPHALUS.

Body round, variously twisted, thickest in front, furnished with a slender *proboscis*.

Tall long, capillary, tapering to a point.

1. Hominis Turton Br. Faun. 126. Lond. Med. Soc. v. t. 3.

[Tr. body of a pale color, crenate above, smooth underneath, two inches long; head obtuse, furnished with a *proboscis*, which it can protrude and draw in at pleasure; tail or thinner part twice the length of the body.

In the human intestines.

2. Equi. Turton Br. Faun. 126. Gozee Eingev. 118. t. 6. f. 8.

[Tr. resembles the last, but rather longer. In the intestines of the horse. Ep.

#### GENUS III. FILARIA.

Body round, filiform, smooth, of equal thickness.

Mouth dilated, with a roundish concave lip.

Gm. Lin. 3040. Turton Br. Faun. 126. Ph. Tr. Abr. ii. 774.

1. SCARA-

[Found in the Scarabæus fimetarius.

Martin Lister says that he took three, out of the belly of one beetle, of a dark hair color, with whitish bellies, somewhat thicker than hog's bristles; and one out of another beetle which was of a lighter color and measured five inches and an half.

Gm. Lin. 3040.

Turton Br. Faun. 126.

2: CARABI.

Found in one of the species of Carabus. Ed.

#### GENUS IV. LIGULA.

Body long, slender, flattened, with a visible groove on each side.

Mouth or vent: none apparent.

1. ABDOMI- Ligula. Gm. Lin. 3042. 1078. Faun. Suec. No. NaLis. Aldominal. Fasciola intestinalis. Br. Zool. 2076. Lin. Syst. ed. vi. 70. tab. vi. Fasciola intestinalis. Lin. Syst. f. 1.

L. with a long slender body, if extended; when contracted, of a sub-oval form.

Inhabits the intestines of fresh-water fish discovered in breams and sticklebacks.

#### GENUS V. ECHINORINCHUS.

Body long, cylindrical.

Mouth with a cylindrical retractile proboscis, crowned with hooked prickles.

Turton Br. Faun. 126. Mull. Zool. Dan. i. 139. t. 1. CANDIDUS. 37. f. 7. 10.

[Ech. body about three inches long, pale opake, varying in color, slightly wrinkled. Ed.\*

\* Animals of this genus are found in the intestines of quadrupeds, birds, and fishes, but never in those of men. Forty-eight species are enumerated by *Muller* and some northern naturalists.

#### GENUS VI. FASCIOLA. FLUKE.

Body oblong; a pore or sucker at the extremity, and another on the belly.

1. HEPA-TICA. Liver.

Fasciola. Lin. Syst. 1077. Ræsel. app. tab. xxxii. f. 5. Gm. Lin. 3053. Faun. Suec. No. 2075. Aman. Acad.

Borlase Nat. Hist. Cornwall, tab. xx. fig. 10.

F. with an ovated body, a little sharper on the fore part; in the centre is a white spot, with a line of the same color passing towards each extremity.

Infests the livers of sheep and hares.

2. TRACHEÆ. Poultry.

Montagu in Mem. Wern. Soc. 194. t. 7. f. 4.

[F. with a round body, acuminated at the posterior end; a large arm or stalk extends from the side, and terminates in an aperture, used as a sucker, by which it adheres to the trachea; color red; length about an inch; breadth not half a line.

Found in the trachea of poultry, and probably of partridges and pheasants, occasioning the complaint called in Deconshire, the Gapes, and which prevails in other parts of the kingdom; cured in *America*, where it is also known, by introducing a feather into the mouth and throat of the bird, and twisting it round, by which means the animal is entangled and withdrawn. Ed.

#### GENUS VII. TÆNIA. TAPEWORM.

Body flat, composed of numerous joints.

HEAD, with four orifices for suction below the mouth.

Mouth terminal, generally crowned with a double series of retractile hooks.

\* Mouth armed; body with a vesicle behind.

1. Viscera- Turton Br. Faun. 126. Ph. Tr. xliii. 305. f. 1—8.

[Tx. Pea shaped, inclosed in a vesicle, broad on the fore part, jointed behind.

In the liver, placenta, &c. of mankind.

2. Cellu-Losa. Turton Br. Faun. 126. Werner verm. int. 2. t. 1. f. 1—8. [T.E. solitary inclosed in cartilaginous vesicle and two tailed tunic.

In the cellular covering of the human muscles.

\*\* Mouth armed; body without the terminal vesicle.

5. Solium. Turton Br. Faun. 127. Carlisle in Lin. Tr. ii. 250. tab. 25.

[Tæ. with long, narrow articulations, and marginal mouths, one on each joint, generally alter-

#### CLASS VI. TÆNIA. TAPEWORM.

nate, by which it attaches itself to the intestines. Grows from the length of three to sixty feet.

Found in the human intestines.

Mr. Carlisle states, that the natives of England have this species and rarely any other, while those of Switzerland have the Tænia lata, &c.

Turton Br. Faun. 127. Shaw Nat. Misc. t. 241. 4. Vulgaris.

[Tx. with short and broader articulations, and a mouth in the centre of each; the body tapering to each end; tail ending in a rounded joint; length from three to fifteen feet.

In the human intestines.

Turton Br. Faun. 127. Lin. Tr. ii. t. 25. f. 9. 11. 5. CATENI-

[Tz. with oblong-elliptic articulations and single marginal mouths.

Resembles the Tx. solium, but the mouths are mostly opposite.

In the intestines of the dog and cat.

Turton Br. Faun. 127. Goeze Eingew. t. 20. a. f. 1-5. 6. CEREBRA-

[T.E. with a body not larger than a grain of sand, armed on the head with from thirty to

forty hooks; several, united at the base to a large common vesicle, affix themselves to the brain or its coats, and occasion the disease in sheep known by the name of *Dunt* or *rickets*.

## \*\*\* Mouth unarmed.

7. Lata. Turton Br. Faun. 127. Carlisle in Lin. Tr. ii. t. 25. f. 12—14.

[Tæ. with very short broad joints, knotty in the middle; a single central mouth in each; color white; length from eighteen to one hundred and twenty feet.

In the human intestines.

8. Ovina. Turton Br. Faun. 127. Carlisle in Lin. Tr. ii. p. 25. f. 15, 16.

[Tx. with very short and narrow joints rounded at the ends; the lateral vesicle pellucid, distinct, with double marginal lateral mouths. Ed.

#### GENUS VIII. LUMBRICUS. DEW-WORM.

Body slender annulated, furnished with lateral pores.

Mouth simple, nearly terminal.

Lumbricus. Lin. Syst. 1076. Faun. Suec. No. 2073. Gm. Lin. 3083. Raii insect. 1.

1. TERRES-TRIS. Earth.

L. with a hundred and forty rings; head taper; mouth, at the end, round; fore part of the worm cylindric, the rest depressed; at about one third of its length is a prominent annulated belt; on each side of the belly a row of minute spines, distinguishable only by the touch, assistant in motion. Tab. xx. fig. 1.

A variety only of the former; excepting in (A.) MINOR. size, resembling it. Raii insect. 2.

Inhabits the common soil, and by perforating, renders it apt to receive the rain; devours the cotyledons of plants, or part of the seed that vegetates; comes out at night to copulate; is the food of moles, hedge-hogs, birds, &c. In English, the Dew or Lobworm. Tab. xx. fig. 2.

- (B.) INTESTI- Inhabits the lesser intestines of the human NALIS. Intestinal. species, chiefly of children; does not differ in the lest from the former kinds.
- 2. MARINUS. L. marinus. Lin. Syst. 1077.

  Lug. Gm. Lin. 3084. Faun.

  Suec. No. 2074. Belon aq.

  444.

Armicole. Bosc. Hist. nat. des Vers. i. 161. Nereide lumbricride. Pallas in nov. act. Petrop. ii. tab. 1. fig. 19.

L. with round mouth, and circular body annulated with greater and lesser rings; the first prominent; on each of them are two tufts of short bristles placed opposite; the tail-part is smooth; elegant ramifications are observed to issue from among the tufts in the living worm; is soft and full of blood.

Inhabits sandy shores, burying itself deep; but its place distinguishable by a little rising, with an aperture on the surface; of great use as a bait for fish. *Tab.* xx. *fig.* 3.

- 3. Thalasseme des rochers. Bosc.

  Sem. Pall. Misc. Zool. t. xi. f. 9.

  Spicil. Zool. t. 1. f. 6.

  Thalasseme des rochers. Bosc.

  Hist. nat. des Vers. i. 224.
  - EL. with a striated body of a dirty red with shining red spots, grey beneath, thicker at one

end, rather pointed at the other; mouth placed above with a saffron funnel.

Found on the shores of Cornwall.

Turton Br. Faun. 128. Pallas Misc. Zool. t. xi. f. 7, 8. 4. OXYURUS.

L. with an annulated whitish-livid body, very sharp at the hinder extremity, obtuse before, with a cylindrical retractile *proboscis*.

On the Sussex coast. Ed.

#### GENUS IX. SIPUNCULUS. TUBE-WORM.

Body slender, lengthened.

Mouth at the very end, attenuated, cylindric.

Aperture on the side of the body.

1. Nudus. Naked. Sipunculus. Lin. Syst. 1078. Rondel. Zooph. 110. Ges-Gm. Lin. 3094. Rondel. Zooph. 110. Gesner aq. 1026.

Vermis macrorhynchopterus. Syrinx. Bohedsch. marin. 93. tab. vii. fig. 6. 7.

S. with a cylindric extended mouth, laciniated round the inner edges; body rounded, taper, at the end globose; about eight inches long; aperture at the side, a little below the mouth. *Tab.* xxi. *fig.* 2.\* 2.

Inhabits the sea.

2. SACCATUS. Gm. Lin. 3095. Mont. in Lin. Tr. vii. 75. Gesner ag. 1026.

[S. covered with a skin not adhering close to the body as in the preceding species.

This animal, which was supposed to be exclusively a native of the *American* and *Indian* seas, has been found by Mr. *Martin* at *Teignmouth*.

Mont. in Lin. Tr. vii. 74.

3. STROMBUS.

[S. with a body in its contracted state more taper than cylindric; when extended, the anterior part half the size of the posterior; mouth surrounded with *laciniæ* or short feelers; body smooth, except about the middle, which is rather verrucose; color livid; utmost length about four inches; diameter one eighth of an inch.

The animal is parasitical, taking possession of the old shells of *Strombus Pes Pelicani*. Ed.

#### GENUS X. PLANARIA.

Body gelatinous, flattish.

Mouth terminal.

Pores two ventral.

1. LACTEA. Gm. Lin. 3090. Hirudo alba. Kirby in Lin. Tr. ii. 317.

[Pl. of an ovate form when at rest, but linear when in motion, and is then six or eight lines in length; color of a delicate white, through which appear the elegant ramifications of the viscera.

Found in slow streams among the *Lemna* gibba.

2. Fusca. Gm. Lin. 3090. Hirudo nigra.

Pall. spic. Zool. x. 21. t. 1. Kirby in Lin. Tr. ii. 317.

f. 13.

[PL. of a deep rich black color; circular when at rest, when in motion, linear, and increases from one to three lines in length.

Found on aquatic plants in slow streams. Ed.

#### GENUS XI. HIRUDO. LEECH.

Body oblong; moves by dilating the head and tail, and raising the body into an arched form.

H. Lin. Syst. 1079. Gm.Lin. 3095.Faun. Suec. No. 2079.

Raii insect. 3. Gesner pisc. 425.

1. Medici-NALIS. Medicinal.

L. with a brown body, marked with six yellow lines.

Inhabits standing waters. The best of phlebotomists, especially in hæmorrhoids. The practice is as old as the time of Pliny, who gives it the apt name of hirudo sanguisuga. Leeches were used instead of cupping-glasses for persons of plethoric habits, and those who were troubled with the gout in the feet. He asserts, that if they left their head in the wound, as sometimes happened, it was incurable; and informs us, that Messalinus, a person of consular dignity, lost his life by such an accident.\*

<sup>\*</sup> Lib. xxxii. c. 10.

2. SANGUI- H. Lin. Syst. Gm. Lin. 3095. Hirudo maximè apud nos vul-SUGA. Horse. Faun. Suec. No. 2078. garis. Raii insect. 3.

> L. with a depressed body; in the bottom of the mouth are certain great sharp tubercles or whitish caruncles. The slenderest part is about the mouth; the thickest towards the tail; the tail itself very slender; the belly of a yellowish green; the back dusky.

Inhabits standing waters.

Leeches are good barometers, when preserved in glasses, and predict bad weather by their great restlessness and change of place.

3. Piscium. H. geometrica. Gm. Lin. Lin. Syst. 1080. Faun. Suec. Geometrical. 3097. No. 2083. Ræsel. App. tab. xxxii. f. 1. 4.

L. with a filiform body; greenish, spotted with white; both ends dilatable, and equally tenacious.

Inhabits the same places; moves as if measuring like a compass, whence the name; found on trout and other fish, after the spawning season. *Tab.* xxi. *fig.* 3.

H. Lin. Syst. 1080. Gm. Lin. Hirudo marina. Rondel. a- 4. Muri3098. Faun. Suec. No. quat.
2080. Mus. Ad. Fr. i. Hirudo piscium. Baster, i. Tuberculated.
93. 82. tab. x. f. 2.

L. with a taper body; rounded at the greater extremity, and furnished with two small horns; strongly annulated, and tuberculated upon the rings; the tail dilated.

Inhabits the sea; adheres strongly to fish, and leaves a black mark on the spot. *Tab.* xxi. fig. 4.

Turton Br. Faun. 129.

5. Octocu-

[L. with body elongated, yellow brown, sometimes spotted; eight eyes in form of a crescent; length an inch and an half.

Inhabits stagnant waters.

Turton Br. Faun. 129.

6. STAGNA-

[L. with elongated pellucid body, whitish with grey dots, plaited at the sides; eyes two; length nine lines.

Found in wet hollows.

7. Complanata.

Turton Br. Faun. 129.

[L. with a grey dilated body, serrate at the sides, and a double tubercled line on the back; head pointed, white; eyes, six; tail articular; length four lines.

Inhabits slow streams.

8. CIRCU-

Turton Br. Faun. 129. Sow. Br. Misc. 76.

[L. with an oblong body pointed towards the head, convex above, flat beneath, of a dull red color; sufficiently transparent to shew the circulation of the blood; length one inch.

Found in the *Thames*.

O. CRINATA.

Turton Br. Faun. 129.

Lin. Tr. vi. 318. t. 29.

[L. with the body of the shape of a pear, convex on the upper surface, flat beneath; crenulate at the sides; color greenish grey; length half an inch. Inhabits shallow streams. Ep.

#### GENUS XII. GORDIUS. HAIR-WORM.

Body filiform, of equal thickness, smooth.

Gordius. Lin. Syst. 1075. Vitulus aquaticus. Gesner aq. 1. AQUATI-Gm. Lin. 3082. Faun. Suec. Drageneau aquatique. Bosc. No. 2068. Hist. nat. des Vers. i. 230. Water.

G. of a pale color, with the ends black.

Inhabits boggy places, and clay at the bottom of water.

G. Lin. Syst. 1075. Gm. Lin. 3083. Faun. Suec. No. 2069. 2. ARGILLA-CEUS.
G. of an uniform yellow color.

Montagu in Lin. Tr. vii. 74.

3. Annu-Latus.

[G. of a garnet red color, with a pure white line along the back, and another on each side, divided by two rows of minute white spots. Length six or seven inches; diameter not exceeding one line.

Taken by dredging, in old shells, and among corallines.

4. Mari-Nus. Montagu in Lin. Tr. vii. 72. Sea long-worm. Borlase Cornwall. 255. t, 26. f. 13. Lineus longissimus. Sow. Br. misc. t. viii. Mem. Wern. Soc. 557.

[G. of a filiform shape, but rather decreasing towards the extremity; skin smooth, slimy; mouth small, placed beneath longitudinally; color dusky brown, with a tinge of green, marked by five longitudinal lines of a paler hue; grows at lest to the length of thirty feet, but possesses a singular power of expanding and contracting itself; one about eight feet in length, put by Mr. Montagu in spirits, contracted to one foot, but at the same time increased in bulk.

This curious worm is not uncommon on the southern coast of *Devonshire*;\* the largest are taken by dredging in old bivalve shells. Ed.

<sup>\*</sup> It has also been found on the coast of Anglesey, under stones, in deserted hollows formed there by crabs for their retirement. H. D.

#### Div. II.

#### MOLLUSCA.

Animals of a simple form, (naked) without a shell; furnished with members.

#### GENUS XIII. LIMAX. SLUG.

BUCKLER fleshy above, formed convexly; flat beneath.

Hole, a lateral, on the right side, for its genitals, and discharge of excrements.

FEELERS four, two having eyes at the extremity.

L. Lin. Syst. 1081. Gm. Lin. 3099.

Faun. Suec. No. 2088.

List. Angl. 131. Gesner aq. 254. 1. ATER. Black.

SL. wholly black.

L. rufus. Lin. Syst. 1081. List. Angl. App. 6 tab. ii. 2. Succi-Gm. Lin. 3100. fig. 1. NEUS. Brown.

Faun. Suec. No. 2089.

St. of a brownish color.

3. CINE-REUS. Cinereous. L. maximus. Lin. Syst. 1081. cinereus. Gm. Lin. 3180. Faun. Suec. No. 2090. List. Angl. App. 6. tab. ii. fig. 2.

List. Angl. 127.
L. maximus. Br. Zool. iv.
41.

St. with a cinereous ground; the head reticulated with black; on the back three pale lines and four dusky; the last spotted with black.

These vary; at times, part is of an amber color. The largest of the genus, five inches long.

4. Agres- L. Lin. Syst. 1082. Gm. Lin. Limax cinereus parvus immaris. Field. S101. Linax cinereus parvus immaculatus. List. Angl. 130.

SL small, and of an uniform cinereous color; are very common in gardens, and destructive to plants.

These have sometimes been swallowed by persons in a consumptive habit, who thought them of service.

Flavus, L. Lin. Syst. 1082. Gm. Lin. Faun. Suec. No. 2092.
 Yellow. 3102.
 L. Filans. Lin. Tr. 1. 183.

St. of an amber color, marked with white. [Either this animal or a species nearly allied to it, distinguished by Mr. *Hoy* in the first vo-

lume of the Liman Transactions, under the name of Liman filans, has the faculty of forming a thread like the spiders or caterpillars. That gentleman observed\* one hanging from a Scotch fir four feet from the branch of the tree, and four feet and an half from the ground, to which it was approaching by the elongation of the thread, at the rate of about an inch in three minutes. Ed.

<sup>\*</sup> On the 11th of October 1811, I observed the same phænomenon. This was suspended from a projecting part of a building. H. D.

#### GENUS XIV. APLYSIA.

Body covered with reflexible membranes.
Shield, a horny, on the back, guarding the lungs.

APERTURE on the right side. Vent on the extremity of the back. Feelers four resembling ears.

1. DEPI-LANS. Depilatory. A. Tentaculorum membranarumque margine cum disco concolore; pulmonibus flabelliformibus, fusco albidoque variis. Lepus marinus. Plin. lib. ix. c. 48. Rondel. pisc. 520. Lernæa. Bohadsch.\* tab. 1. 5. Gm. Lin. 3103.

\* Apl. Its color is different shades of brown tinged with blue or purple; lungs fan-shaped, variegated with stripes of dusky brown and white.

As the lungs are visible without dissection, we have risked a specific distinction, by means of this part, with regard to this and the following species. There are already instances of specific characters taken from the *interanea* of this tribe of animals. See *Ascidia*. Gm. Lin.

<sup>\*</sup> De quibusdam animalibus marinis, &c. Dresdæ, 1761.

Bohadsch has given us the colors as above, and in tab. iv. f. 21, 22. figures of the lungs, which resemble in some measure a lady's fan.

A. unicolor, mustelina; pulmonibus spiciformibus phœniceis. H. Da- 2. Mustevies. Mss.

LINA. Tawny.

\* This species is of a deep tawny, or yellowish brown color, except the shield, which is a dull brown, and the part, which by its situation corresponds with what Bohadsch deems the lungs in his subject, which is crimson. Notwithstanding these parts differ so much in color and form, as represented in the figures given by Bohadsch and Mr. Knapp, they are surely designed for the same use.

Mr. Knapp observes, "this part apparently " performs the office of spiracles, being in a " constant state of contraction and expansion; "this fabrication, when the animal is at rest, " is concealed by one of the lobes E\* and the " shield."

The figure is the production of the accurate pencil of J. L. Knapp, Esq. who found the subject in deep water near Tenby, Pembrokeshire. Tab. xxii.

3. VIRIDIS. Green.

Laplysia. Mont. in Lin. Tr. vii. p. 76. tab. 7. f. 1.

\* Apl. with the fore part of the body like a common limax or slug; tentacula two, all (except the under part which is paler) of a bright grass-green color, marked on different parts with azure spots; the shield is not discernible. This beautiful animal, not having what is deemed in this genus the second, or foremost pair of tentacula, tends to confirm Bohadsch's assertion that the genus has really but one pair of feelers, as the two other appendages, in the front of the head, are altered in their form and appearance according to the will of the animal, and sometimes to that degree, that they have not at all the resemblance of horns or tentacula. This observation consequently seems to justify his definition of the genus, corpus subovatum, dorsum labiosum, tentacula in fronte duo auriformia.\*

<sup>\*</sup> Mr. Montagu, in his description of this species, takes an opportunity of controverting the generally received opinion, that the Apl. depilans has an offensive smell, or is poisonous to the touch. Mr. Sowerby makes the same remark, and seems to attribute to it the merit of producing the Tyrian dye. Ep.

## GENUS XV. TRITONIA.

Body oblong, creeping, pointed behind, convex above, flat or grooved underneath.

Mouth at one of the extremities, surrounded with tentacula.

Branchiæ projecting and disposed along the back, in scales, tubercles, or vascular tufts.

91. Limax papillosus. Lin. Syst. 1. Papile 1082. Los A.

Mem. Wern. Soc. 556. Doris papillosa. Gm. Lin.

3104.

[Tr. The body covered above with papillæ which serve as branchiæ; the line along the back smooth.

Inhabits the shores near Leith. Ed.

# GENUS XVI. DORIS.

Body oblong, flat beneath, creeping. Mouth placed below.

Vent behind; surrounded with a fringe which serves as branchiæ.

FEELERS from two to four, retractile.

1. Argo. Doris. Lin. Syst. 1083. Gm. Bohadsch. tab. v. fig. 4. 5. Lin. 3107.

D. with an oval body, convex, marked with numerous punctures; of a lemon color; the vent beset with elegant ramifications.

Inhabits different parts of our seas; called, about *Brighthelmstone*, the *sea-lemon*. *Tab*. xxiv.

- 2. VERRU- Doris. Lin. Syst. 1083. Gm. Tritonia verrucosa. Bosc. Hist. COSA. Warty. Lin. 3103. Gm. Mem. Wern. Soc. 556.
  - D. of an ovated form, convex, tuberculated. Inhabits the sea near Aberdeen. Tab. xxiii. fig. 2.

Doris fusca. Gm. Lin. 3106.?

3. ELEC-TRINA. Amber.

D. with the front abrupt; body has the appearance of a snail; bilamellated; size of the figure; amber-colored.

Taken off Anglesey. Tab. xxvi. fig. 1.

Mont. in Lin. Tr. vii. 78. t. 7. f. 2. 3.

4. PINNA-

\* D. grey spotted with olive green; body slender, somewhat taper, with two rows of ovate greenish pedunculated appendages on the back, and two trumpet-shaped feelers. Length three tenths of an inch.

Mont. in Lin. Tr. vii. 78. t. 7. f. 5.

5. CÆRU-

\* D. green; body linear, covered with blue clavated tubercles; feelers four; length a quarter of an inch.

Mont. in Lin. Tr. vii. 79. t. D. clavigera. Gm. Lin. 3104.? 6. FLAVA. 7. f. 6.

\* D. with a longish obovate body, white, spotted with yellow, with a fasciculus of orange-colored club-shaped processes on the back; feelers four, with four other long upright appendages on the back, two of them near the head, the other two near the vent; length half an inch.

- 7. MARGI- D. lævis. Gm. Lin. 3106.? Mont. in Lin. Tr. vii. 79. t. 7. NATA. f. 7.
  - \* D. ovate, white with a tinge of pink, surrounded with a membranaccous undulated margin; feelers two; length a quarter of an inch.
- 8. MACU-LATA.

Mont. in Lin. Tr. vii. 80. t. 7. f. 8. 9.

\* D. slender, tapering to a point behind, with several pairs of subclavated sexpartite peduncles along the back; feelers two, trumpet-shaped; color pale yellow spotted with pink; length a quarter of an inch.

9. Longi-

Mont. in Lin. Tr. ix. 107. t. 7. f. 1.

\* D. slender, tapering to a point behind; with a fasciculus of club-shaped peduncles near the head, and four transverse series of subulate cirri on the body; feelers four, two of them octiform, and above half the length of the body; the other two short; color yellowish white; length half an inch.

Mont. in Test. Br. ix. 107. t. 7. f. 2.

10. Nodosa.

\* D. front bilobate; body obovate, convex, surrounded by a broad membranaceous margin, with eight papillæ on the back, and near the posterior end a fasciculus of plumose appendages; feelers two short, with perfoliated, retractile tips; color whitish; length half an inch.

The seven preceding species were discovered by Mr. Montagu on the southern coast of Devonshire.

#### GENUS XVII. APHRODITA.

Body oval; numbers of *fasciculi*, serving the uses of feet, on each side.

Mouth cylindric, retractile, placed at the extremity.

Feelers two, setaceous.

1. Aculea- Aph. Lin. Syst. 1084. Gm.
Aculeated.

Lin. 3107. Faun. Suec. No.
2099.

Baster, ii. 62. tab. vi. fig. 12. Mus. Ad. Fr. i. 93.

Eruca marina. Seb. Mus. i.

tab. xc. 1. 111. tab. 4. f. 7. 8.

Sea mouse. Dale's Harwich. 394.

Boate's Nat. Hist. Ireland, 172.

Aph. with the back cloathed with short brown fur; the sides, with rich pavonaceous green hairs, mixed with sharp spines; vent covered with two scales; belly covered with a naked skin; mouth placed beneath; each foot consists of a fasciculus of five or six strong spines; on each side about thirty-six; grows to the length of between four and five inches.

Inhabits all our seas; often found in the belly of the cod-fish. *Tab.* xxv. *fig.* 1.

Aph. Lin. Syst. 1084. Gm. Pallas Misc. Zool. t. 7. f. 14. 2. SQUAMA-Lin. 3108? Aph. clava. Mont. in Lin. TA. Baster, ii. 66. tab. vi. fig. 5. Tr. ix. 108. t. 7. f. 3??

Aph. with the back covered with two rows of large scales, deciduous; about an inch long.

Taken off Anglesey. Tab. xxv. fig. 2.

Appl. with two rows of scales on the back, placed alternately; the mouth cylindric, projecting; an inch long.

3. PEDUN-CULATA. Pedunculated.

Taken off Brighthelmstone. Tab. xxvi. fig. 2.

APH. oblong; fusiform; annulated; smooth, excepting a row of minute spines, one on each ring, running along the back; feet small; size two inches and a quarter; of a pale yellow color.

4. Annu-Lata. Annulated.

Tab. xxvi. fig. 3.

APH. lepidota. Gm. Lin. Pallas Miscel. Zool. 209. tab. 5. MINUTA.
3108. viii. fig. 1. 2. vii. 15. Little.

Aph. with small scales; slender; not an inch long.

Taken off Anglesey. Tab. xxvi. fig. 4.

- 6. Scabra. Gm. Lin. 3108. Mem. Wern. Soc. 557.
  - \* Aph. oblong; the back scaly and rough, with about twenty feet on each side.

    Leith shore and Brighthelmstone.
- 7. Imbri- Gm. Lin. 3108. Mem. Wern. Soc 557.
  - \* Aph. oblong with smooth variegated scales. Shore near *Leith* and the *Orkneys*.

# GENUS XVIII. AMPHITRITE.

\* Body issuing from a tube, annulated.

Feet small, numerous.

Tentacula two, close together, feathered.

Mont. in Lin. Tr. ix. 109. tab. 8.

1. INFUNDI-BULUM. Funnel.

\* AMPH. Body long, tapering, extendible from three or four inches to eight or ten; of an orange color, divided by whitish ringlets into about an hundred and fifty or sixty joints; feelers two, each composed of about thirty-seven purple-colored rays, connected nearly to the ends by a transparent web, in which last particular it differs from every other known species; these feelers are semicircular when spread, uniting into a nearly regular circle; its tube is elastic, of a greenish color.

Found near Kingsbridge, Devonshire, at the lowest ebb of spring-tides.

Mont. in Lin. Tr. vii. 80. tab. 7. f. 10.

2. VOLUTA-CORNIS.

\* AMPH. with a scutellum of ten smooth yel- Convoluted. lowish joints, and a pencil of bristly tubercles

on each side at each joint; feelers full an inch long, elegantly plumose, convoluted, and of a yellowish mottled brown color; the body scaly on the back, of about eighty segments, and of a purplish color. This species does not seem furnished with a tube or case; it is about five inches long, and half an inch in diameter.

Taken by dredging for oysters on the southern coast of Devonshire.

LABRUM. Fan.

3. VENTI- Gm. Lin. 3111. Corallena tubularia melitensis. Ellis corall. 92. t. 34.

Sow. Br. Misc. tab. 12.

Sabella Penicillus. Mont. Test. Br. 541. Mem. Wern. Soc. 558.

\* AMPH. with the fibres of the feelers ciliated on the inner edge; one feeler has fifty-four fibres, the other thirty-six; body verrucose; proboscis, none; length about eight or nine inches.

Inhabits the Sabella Penicillus, and is found on several parts of our coasts.

4. Rosea. Rosy.

Sow. Br. Misc. 67.

\* AMPH. with the fibres of the feelers beautifully spotted with crimson; feet golden; length somewhat more than one inch.

Gm Lin. 3111. Mem. Wern Soc.

5. CRISTATA.

\* AMPH. with a long round body of seventeen segments; color orange; horns two branched. Found on the shore near Leith.

Sow. Br. Misc. tab. 31. Turton Br. Faun. 137.

6. CAMPA-NULATA.

[AMPH. with a yellow body, striped with black; feelers pale, with black spots; proboscis, bellshaped at the end; length about an inch.

Inhabits the Serpula triquetra. Ed.

Gm. Lin. 3111. Mont. Test Br. 545.

Misc. 117. t. ix. f. 1-13. Nereis pectinata. Sow. Br. Misc. t. 51.

7. Auri-COMA.

Nereis cylindraria. Pallas

AMPH. with a smooth body; color, of the various prismatic tints; feelers, fourteen on each side, gold-colored; feet, pencil-like, fourteen on each side, also gold-colored.

Inhabits the Sabella tubiformis.

# GENUS XIX. SPIO.

Body projecting from a tube, jointed and furnished with dorsal fibres.

FEET rough with bristles, placed towards the back.

TENTACULA two, long, simple.

EYES two, oblong.

1. Seticor-

Gm. Lin. 3109. Turton Br. Faun. 137.

[Sp. Body whitish, with a tinge of green, and a red line down the middle of the back; tentacula, thin, capillary, striate; length about three inches.

Inhabits the sea. ED.

# GENUS XX. NEREIS.

Body long, slender.

FEET formed like a pencil of rays, and numerous on each side.

Mouth at the extremity, unguiculated.

FEELERS above the mouth, simple.

N. segmentis xxiii. corpore vix conspicuo. Lin. Syst. 1085. Gm. Lin. 3115.

Noctiluca marina. Aman. Acad.

Baster, i. tab. iv. fig. 3.

1. Nocti-Luca. Noctilucent.

These are the animals that illuminate the sea, like glow-worms, but with brighter splendor. I have at night, in rowing, seen the whole element as if on fire round me; every oar spangled with them; and the water burnt with more than ordinary brightness. I have taken up some of the water in a bucket, seen them for a short space illuminate it; but when I came to search for them, their extreme smallness eluded my examination.

Nereis. Lin. Syst. 1086. Gm. Lin. 3117. Faun. Suec. No. 2095.

2. CÆRULEA. Blue.

N. smooth; depressed; with 184 segments of a bluish-green color, semi-pellucid; a longitu-

dinal sulcus runs along the belly, about four inches long.

Inhabits the deeps. Tab. xxvii. fig. 1.

3. VIRIDIS.

Gm. Lin. 3117. Adams in Lin. Tr. v. 8.

\* N. filiform, of one hundred and thirty segments, flattish; the scales of the feet lanceolate; two short cirri on the tail; three feelers on each side of the head; color green; length about two or three inches.

Found on Fucus pinnatifidus near Tenby.

4. IRICOLOR.

Mont. in Lin. Tr. vii. 82.

\* N. nearly cylindric, of about four hundred segments; no feelers; color, of the most beautiful prismatic tint, except the tail, which is orange red; length one foot; size, that of a goose quill; but can extend itself to three feet, and the size of a raven's quill.

Found under a stone among the rocks at Milton.

5. MARGA-RITA.

Mont. in Lin. Tr. vii. 82.

\* N. with a cylindric body of about seventyfour segments, with a short filamentous appendage to each foot; front divided into three lobes, the middle one of which has two feelers; color changeable greenish bronze, beneath of a paler and pearly appearance; length five or six inches.

Inhabits the same place as the last.

#### Mont. in Lin. Tr. vii. 83.

6. LINEATA.

\* N. with a flattish body, of one hundred and twenty segments and six feelers; tail with two short appendages; color, yellow with purple spots disposed lengthways in six lines; length one inch and a half.

Taken by dredging in deep water.

#### Mont. in Lin. Tr. vii. 84.

7. OCTENTA-

\* N. with a flattish body, of between eighty and ninety segments, with two long and six short setaceous feelers; four eyes; along the back is a purple line, and a yellow spot at each joint; length three inches.

Found with the preceding.

#### Mont. in Lin. Tr. ix. 111. t. 6. f. 3.

8. PINNI-GERA.

\* N. with a long slender body of about eighty segments, furnished along the sides with long

flat appendages; eyes four; length one inch and a half. The posterior part in Mr. Montagu's figure is much more slender than the foremost, and is very reasonably supposed by him to be a reproduction.

9. Mollis.

Gm. Lin. 3116.

Mem. Wern. Soc. 557.

\* N. with lateral *fasciculi* of hair above the feet. A rare species in the *Frith* of *Forth*.

10. LAMEL-LIGERA. Gm. Lin. 3120.

Mem. Wern. Soc. 557.

\* N. round, tapering at each end; the *proboscis* stellated with four fleshy points; eyes two, black; segments, above two hundred; length two feet.

11. Rufa. Red.

N. versicolor. Gm. Lin.

Scolopendra marina. Lin. Syst. 1064.?

N. with a very slender depressed body; two black spots on the front; attenuated at the end, when it draws in its *forceps*; a blood-red longitudinal line along the middle of the back; the segments very numerous; about four inches long.

Taken off Anglesey. Tab. xxvii. fig. 2. fig. 3.?

# GENUS XXI. NAIS.

Body creeping, long, linear, depressed, pellucid.

BRISTLES on each side instead of feet.

TENTACULA, none.

Eyes two or more.

Shaw's Nat. Misc. t. 270. 1. SERPEN-Gm. Lin. 3121. Ræsel: ins. iii. 567. t. 92.

TIMA

[N. with red spiral intestines and triple black collar; body slender, serpentine; length about nine lines.

Common in stagnant waters.

Gm. Lin. 3121. 1085. Br. Zool. iv. 46. Nereis lacustris. Lin. Syst. Shaw's Nat. Misc. tab. 379.

2. Probos-CIDEA.

N. with a linear jointed body, with a filiform foot issuing from each; the whole animal of the size of a short bristle of a hog; an object of the microscope.

Inhabits wet places.

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3. DIGI- Gm. Lin. 3121. 452. Shaw's Nat. Misc. tab. Turton Br. Faun. 137.

[N. with single lateral bristles, but chiefly distinguished by six retractile processes at the end of the tail; length four lines.

In stagnant waters towards the decline of summer; rare. Ed.

1

### GENUS XXII. ASCIDIA.

Body fixed to a shell, rock, &c. forming a sheath.

APERTURES two, one on the summit, the other lower.

Asc. rustica? Br. Zool. iv. 48.

1. EBORA-CENSIS. Scarborough.

Asc. with scabrous extremities; one end bending upwards; middle part smooth; lower flat; of a brown color.

Taken off Scarborough. Tab. xxv. fig. 3.

Asc. subovalis, depressa, lævis, virescens, interaneis purpureofuscis, orificiis lutescentibus. M.S. H. Davies. 2. VIRES-CENS. Green:

\* Asc. gelatinous, diaphanous, closely adhering to the inside of dead oyster-shells.

The length from one to two inches; breadth from one half to one inch. The upper aperture is surrounded by eight crimson spots, the lower by six only.

Taken by dredging in the *Menai*, on the coast of *Anglesey*, in the year 1800.

# 3. Rustica.

Mem. Wern. Soc. 556.

\* Asc. subconic in the younger state; in a more advanced state cylindrical; rough; color ferruginous, apertures red; length two inches; eatable.

On roots of Fucus digitatus near Leith.

4. PRUNUM.

Gm. Lin. 3124. Mem. Wern. Soc. 557.

\* Asc. oval, smooth, somewhat transparent; sheath white; one aperture on the side.

Leith shore, on Fuci.

5. Conchi-

Gm. Lin. 3124. Mem. Wern. Soc. 557.

\* Asc. compressed, covered with fragments of shells; sheath white, changing into blue, oval or cylindric.

Leith shore, on Fuci.

Animals of this genus have the faculty of squirting out the water they take in.

#### GENUS XXIII. DERRIS.

Body detached, cylindrical, composed of articulations.

MOUTH terminal.

HEAD with two simple cirri at the top.

Adams in Lin. Tr. iii. 67. Turton Br. Faun. 132. 1. SANGUIt. 13. f. 1, 2.

[D. body covered with a membranaceous transparent coat, through which the internal parts are visible; head extended beyond the outer skin, connected to the anterior part of the body by a membranaceous covering forming a neck; mouth with two lips, one straight and fixed, the other hooked and moveable; length rather more than an inch.

A new genus, formed by Mr. *Adams*, of which this is the only species now known. Ed.

## GENUS XXIV. ACTINIA.

Body wrinkled, affixing itself to some other substance.

APERTURE, one at the extremity, from which issue numberless tentucula.

 Sulcata. Hydra cereus. Gm. Lin. 3867.
 Hydra tentaculis denudatis, numerosissimis, corpore longitudinaliter sulcato. Gart-

100

ner, Ph. Tr. 1761. p. 78. tab. i. b. fig. 1. A. B. Ellis Zooph. 2.

Ac. with a body marked with trifurcated sulci; and summit surrounded with long slender tentacula, from 120 to 200 in number; color of the body pale chesnut; of the tentacula a seagreen, varied with purple.

Inhabits the rocks of the *Cornish* and *Angle-sey* seas.

2. Pedunculata. Stalked. Hydra Bellis. Gm. Lin. 3868. pore verrucus Hydra calyciflora, tentaculis A. B. C. retractilibus variegatis cor- Ellis Zooph. 2.

pore verrucuso. Ibid. fig. 2.
A. B. C.
Ellis Zooph. 2.

Ac. with a long cylindric stalk, expanding at top, and tuberculated. The tentacula disposed

in several ranges, short, and when open, form a radiated angular circumference, like a beautiful flower, with a smooth polygonal disc; the color of the stalk, a fine red; of the tentacula varied with several colors. This species is retractile.

Inhabits Cornwall.

Hydra gemmacca. Gm. Lin. 3868.

Hydra disciflora, tentaculis retractilibus subdiaphanis; corpore cylindrico, miliaribus glandulis longitudina- 3, VERRUlitèr striato. Ibid. fig. 4. Studded.

Ellis Zooph. 3.

Ac. with a long cylindric stalk; marked with elegant small tubercles, disposed in strait lines from top to bottom; the circumference of the mouth striated, surrounded with short petals, like those of the sun-flower; and those again with white tentacula, barred with brown. When drawn in, it assumes the form of a bell; and the lines of tubercles converge to the central of the summit. Body of a pale red.

Inhabits Cornwall.

4. Hemispherica.

Button.

Hydra mesambryanthemum. Gm. Lin. 3868.

Hydra disciflora, tentaculis retractilibus, extimo disci margine tuberculato. *Ibid. fig.*5. A. B.

Ellis Zooph. 4.

Ac. with a smooth short thick stalk; the edge of the disc surrounded with a single row of tubercles; the *tentacula* numerous and slender. Color a dull crimson. Retractile, and flings itself in that state into the form of a conoid button.

Inhabits most of our rocky shores.

5. PENTA-PETALA. Cinque-foil. Hydra dianthus. Gm. Lin. Tr. 1767. p. 436. tab. xix. 3869.

Actinia dianthus. Ellis Ph. Ellis Zoobh. 7.

Ac. with a circular contracted mouth; the disc divided into five lobes covered with several series of short subulated *tentacula*. Stalk short and thick. When contracted, assumes the form of a long white fig.

Inhabits the rocks near Hastings, Sussex.

6. Macu- A. effc

A. effecta. Adams in Lin. Tr. v. 8. Turton Br. Faun. p. 50. 131.

\* Ac. with very numerous retractile short white feelers; base crenated; body grooved; the lower

part of an obscure red, the upper transparent, white with purple spots.

Found at *Milford Haven* on the dead shells of the larger species of *Murex*.

Lin. Syst. 1088. Act. plumosa. Gm. Lin. 3132?

Baster opusc. subs. t. 13. f.

Misc. t. 330.

2. †

\* Ac. subcylindric, transversely wrinkled; color, white or pink, when at rest; exterior coat smooth.

Found on rocks near Tenby.

Gm. Lin. 3131. Mem. Wern. Soc. 558.

8. Rufa.

\* Ac. reddish, with a rose-like aperture and pale tentacula.

Leith shore, also Orkney and Shetland isles.

Gm. Lin. 3132. Mem. Wern. Soc. 558.

9. Crassi-

\* Ac. red; tentacula of an elongated conic form.

Orkney, Shetland, and Western islands.

† Gmelin, in his edition of Linnæus, refers to this figure for his Act. plumosa; the Act. senilis of Linnæus he calls crassiformis. H. D.

10. TRUN-CATA.

Gm. Lin. 3133. Mem. Wern. Soc. 558.

\* Ac. reddish, with a tinge of yellow, convex, smooth, transparent.

Shetland islands.

11. EQUINA.

Sow. Br. Misc. t. 4. Turton Br. Faun. 130.

[Ac. greenish, with a rosy foramen or mouth; tentacula of a light rosy color, with an aperture at the extremity of each, their number about one hundred and forty.

Frequently thrown on the coast near Yarmouth after storms.

12. ANE-MONE.

Act. equina. Lin. Syst. Shaw's Nat. Misc. t. 26, 27.

Ac. shape nearly cylindric, short, with the interior tentacula ramified, the exterior conic and obtuse; color red.

Found adhering to rocks on most of our coasts.

13. CARYO-PHYLLUS.

Turton Br. Faun. 131. Martin's Worms. i. 1. t. 1. f. 1.

Ac. red brown, with small pencil-form tentacula, Ep.

# GENUS XXV. MAMMARIA.

Body smooth.

Mouth above, without *cirri*.

Aperture one.

Gm. Lin. 3135. Mem. Wern. Soc. 557.

1. Mammil-

\* M. Conically ventricose; white.

Found on the shore near Leith, adhering to fuci.

# GENUS XXVI. HOLOTHURIA.

Body not affixed, naked, gibbous.
Tentacula, many at one extremity, surrounding the mouth.

1. Pentac- Hol. Lin. Syst. 1091. Gm.
Tes. Lin. 3139.

Hydra corolliflora tentaculis

retractilibus frondosis. Gært-

ner. Ph. Tr. 1761. p. 75. tab. i. b. fig. 3. A. B. Lin. Tr. ix. t. 7. f. 4. Var.

H. with an incurvated cylindric body, marked with five longitudinal rows of papillæ; out of the centre of each issue, at will, slender feelers like the horns of snails; the upper extremity retractile; when exerted, assumes a cordated form, surrounded at the apex with ten tentacula, elegantly ramified, of a yellow and silver color.

Found on the shore between *Penzance* and *Newland*. Supposed to inhabit the deep.

The figure engraven to illustrate this genus was dredged up near *Weymouth*. *Tab.* xxviii. *fig.* 1.

Aristotle and Pliny make use of the words

Oλοθούρια and Holothuria;\* but I should imagine, from the context, that they intend those marine bodies, which modern naturalists style Zoophyta, perhaps Alcyonia: for both of the former make them analogous with plants. Yet Aristotle hints that they have life; a discovery assumed in later times.

<sup>\*</sup> Aristot. Hist. An. lib. i. c. 1. de Part. An. lib. iv. c. 5. Plinii Hist. Nat. lib. ix. c. 47.

# GENUS XXVII. LUCERNARIA.

Body gelatinous, wrinkled, branched. Mouth beneath.

1. Auricu- Gm. Lin. 3151. Mont. in Lin. Tr. ix. 113. t. 7. f. 5. LA.

\* Lu. In make this animal resembles a bottle, with a round short neck; the extremity expanded, and surrounded with eight *fasciculi* of feelers, which are repeatedly subdivided; color extremely variable; length an inch or more; breadth as much.

Taken in Salcomb Bay, Devonshire, adhering to alg x.

# GENUS XXVIII. TEREBELLA.

\* Body oblong, creeping, naked, furnished with branchiæ at the sides, often inclosed in a tube.

Mouth at the end, with lips, and a clubshaped proboscis.

TEETH none.

TENTACULA numerous, capillary, ciliated, surrounding the mouth.

Mont. in Lin. Tr. ix. 110. tab. 4. fig. 2.

1. TENTA-CULATA.

\* TE. with a long slender body, composed of above two hundred annulations, each furnished with two fasciculi of very minute bristles; no eyes; from the sides issue very long red capillary appendages, like so many worms, writhing in all directions; mouth beneath; color, olive green above, dull orange beneath; length eight or nine inches.

Found in wood in the deserted habitation of a *Pholas*.

2. CONCHI- Gm. Lin. 3113. N. conchilega. Br. Zool. iv.
LEGA. Nereis conchilega. Pallas 47.
Misc. 131. t. 8. f. 17. Sabella conchilega. Mont.
22? Test. Br. 547.?

TE. with a flat body attenuated toward the tail; about thirteen feet on each side; the mouth encircled by a series of very fine filaments.

Inhabits the Sabella rudis of this work. Tab. xxviii. fig. 2. A. A.

# GENUS XXIX. LERNÆA.

Body oblong, roundish, which affixes itself to other animals by its *tentacula*.

THORAX heart-shaped.

TENTACULA two or three, in form of arms.

L. Lin. Syst. 1093. Gm. Lin. 3144. Faun. Suec. No. 2102.

NEA.
Salmon.

Le. with an ovated body, cordated thorax, and two linear arms approaching nearly to each other.

Inhabits the gills of salmon. Observed in great numbers on the first arrival of that fish out of the sea; but after being a little time in fresh waters, drops off and dies. The salmon is reckoned in highest season when these vermes are found in them. Called by the fishermen, salmon-lice.

Sow. Br. Misc. 68.

2. Sprat-

\* Le. body shaped like an oat grain, red, with two green oviducts, resembling tails; head with two barbs.

Found tormenting and feeding on the sprat.

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3. Cypri- Gm. Lin. 137. Faun. Succ. 2102. Turton Br. Faun. 137.

[Le. body about half an inch long, pale and rather pellucid, protruding from a kind of sheath; thorax cylindrical, forked; tentacula lunate at the point.

On the carp and roach.

4. ENCRA-

Turton Br. Faun. 138.

Le. differs from the *L. sprattæ* in the body not tapering to a point, and in having the oviducts very long, filiform, and white.

Found by Dr. Turton on the anchovy and sprat in Swansea bay. Ed.

#### GENUS XXX. SEPIA. CUTTLE.

ARMS eight, placed round the mouth, with small concave discs on their insides.

TENTACULA often two, long.

Mouth, formed like a horny beak.

Eyes, placed beneath the tentacula.

Body fleshy, a sheath for the breast.

TUBE at the base of the last.

Loligo, sive Calamarus. Matthiol. in Dioscorid. 327. Loligo magna. Rondel. 506.

Le Casseron. Belon aquat. 342.

Sepia. Lin. Syst. 1096. No. 4. Gm. Lin. 3150.

Seb. Mus. iii. tab. iv. fig. 1, 1. Loligo. Great. Faun. Suec. No. 2107. Borlase Cornwall. tab. xx.

S. with short arms and long tentacula; the lower part of the body rhomboid and pinnated, the upper thick and cylindric.

fig. 27.

Inhabit all our seas; are gregarious; swift in their motions; take their prey by means of their arms; and embracing it, bring it to their central mouth. Adhere to the rocks, when they wish to be quiescent, by means of the concave discs that are placed along their arms. Tab. xxix.

2. Octopo- Le Pourpre. Belon aquat. Sepia. Lin. Syst. 1045. No. 1.

BIA.

BIA.

Bight-armed. Polypi prima species. Rondel.

513.

Sepia. Lin. Syst. 1045. No. 1.

S. octopus. Gm. Lin. 3149.

Seb. Mus. iii. tab. ii. fig. 1.

S. with a short round body, without fins or tentacula; with only eight arms; connected at their bottom by a membrane. This is the Polypus of Pliny, which he distinguishes from the Loligo and Sepia, by the want of tentacula. Inhabits our seas. In hot climates these are found of an enormous size. A friend of mine, long resident among the Indian isles, and a diligent observer of nature, informed me that the natives affirm, that some have been seen

diligent observer of nature, informed me that the natives affirm, that some have been seen two fathoms broad over their centre, and each arm nine fathoms long. When the *Indians* navigate their little boats, they go in dread of them; and least these animals should fling their arms over, and sink them, they never sail without an ax to cut them off. *Tab.* xxx.

3. Media. S. Lin. Syst. 1093. Gm. Loligo Parva. Rondel. 508. Lin. 3150. Seb. Mus. iii. tab. iv. fig. 5.

S. with a long, slender, cylindric body; tail finned, pointed, and carinated on each side;

NALIS.

two long tentacula; the body almost transparent; green, but convertible into a dirty brown, confirming the remark of Pliny,\* that they change their color through fear, adapting it, Chameléon like, to that of the place they are in. The eyes are large and smaragdine. Tab.xxxi. fig. 1.

S. Lin. Syst. 1096. Gm. Lin. 3151. Sepiola. Rondel. 519. 4. SEPIOLA. Small.

S. with a short body, rounded at the bottom; a round fin on each side; two tentacula.

Taken off Flintshire. Tab. xxxi. fig. 2.

La Seiche. Belon aquat. 338. Matthiol. in Dioscorid. 326. Sepia. Rondel. 498. Seb. Mus. iii. tab. iii. fig. 1, 2.

S. officinalis. Lin. Syst. 1095. 5. Offici-Gm. Lin. 3149. Officinal. Faun. Suec. No. 2706. Amæn. Acad.

S. with an ovated body; fins along the whole of the sides, and almost meeting at the bottom; two long tentacula; the body contains the bone, the cuttle-bone of the shops, which was formerly used as an absorbent.

The bones are frequently flung on all our shores; the animal very rarely.

This (in common with the other species) emits, when frightened or pursued, the black liquor which the antients supposed darkened the circumambient wave, and concealed it from the enemy.

Σηπία αυτε δολοφεοσυνησι, &c.

Th' endanger'd Cuttle thus evades his fears, And native hoards of fluid safety bears. A pitchy ink peculiar glands supply, Whose shades the sharpest beam of light defy. Pursu'd he bids the sable fountains flow, And wrapt in clouds eludes th' impending foe. The fish retreats unseen, while self-born night, With pious shade befriends her parent's flight.\*

The antients sometimes made use of it instead of ink. *Persius* mentions the species in his description of the noble student.

Jam liber, et bicolor positis membrana capillis, Inque manus chartæ, nodosaque venit arundo. Tum querimur, crassus calamo quòd pendeat humor; Nigra quòd infusa vanescat Sepia Lympha.†

At length, his book he spreads; his pen he takes:
His papers here, in learned order lays;
And there, his parchment's smoother side displays.
But oh! what crosses wait on studious men,
The Cuttle's juice hangs clotted at our pen.
In all my life such stuff I never knew,
So gummy thick—Dilute it, it will do.
Nay, now'tis water!

DRYDEN.

<sup>\*</sup> Jones's Translation of Oppian's Halieut. lib. iii. † Sat. iii.

This animal was esteemed a delicacy by the antients; and is eaten even at present by the *Italians*. Rondeletius gives us two receipts for the dressing,\* which may be continued to this day. Athenæus† also leaves us the method of making an antique Cuttle-fish sausage; and we learn from Aristotle,‡ that those animals are in highest season, when pregnant.

<sup>\*</sup> De Pisc. 510.

<sup>†</sup> Lib. vii. p. 326.

<sup>1</sup> Lib. viii. c. 30. Hist. An.

### GENUS XXXI. TRITON.

Body oblong.

Mouth with an involute spiral proboscis.

Arms, six on each side, divided nearly to the base; the hinder chaliferous.

l. LITTO-REUS. Gm. Lin. 3143.
Turton Br. Faun. 138.

Ellis in Ph. Tr. 50. part 2. 847. tab. 34. A.

[Tr. Body oval, dilated, lobed in the lower end; head oblong, rounded; mouth placed at the base of the arms or tentacula; proboscis long, tapering to a point.

Found on submarine rocks. Ep.

#### GENUS XXXII. MEDUSA. SEA-NETTLE.

Body gelatinous, orbicular, convex above; flat or concave beneath.

Movember beneath in the middle

MOUTH beneath, in the middle. Tentacula placed below.

Borlase's Cornwall, p. 256. tab. xxv. fig. 7, 8.

1. Fusca. Brown.

M. with a brown circle in the middle; sixteen rays of the same color pointing from the circumference towards the centre. On the circumference a range of oval tubercles, and crooked fangs placed alternately. Four ragged tentacula extend little farther than the body.

Borlase's Cornwall, p. 257. tab. xxv. fig. 9, 10.

2. PURPURA. Purple.

M. with a light-purple cross in the centre; between each bar of the cross, is a horse-shoe-shaped mark of deep purple; from the circumference diverge certain rays of pale purple. Four thick tentacula, short, not extending farther than the body.

3. Tuberculata. Tubercled. Borlase's Cornwall, p. 257. tab. xxv. fig. 11, 12.

M. with fifteen rays pointing to and meeting at a small spot in the centre. Round the edges are small oval *tubera*; four plain *tentacula* extending far beyond the body.

4. UNDU-LATA. Waved. Borlase's Cornwall, p. 257. tab. xxv. fig. 15.

M. with undulated edges, and fangs on the projecting parts; four orifices beneath; between which rises a stem, divided into eight large ragged tentacula.

5. LUNU-LATA. Lunulated. Borlase's Cornwall, p. 258. tab. xxv. fig. 16, 17.

M. with the circumference tuberculated on the edges; in the centre of the lower part are four conic appendages forming a cross; several others, like serrated leaves, surround it. Eight tentacula, not exceeding the edges of the body; eight semilunar apertures, one between each pair of tentacula.

Borlase's Cornwall, p. 257. tab. xxv. fig. 13, 14.

6. SIMPLEX. Armless.

M. with a plain circumference; four apertures beneath; no tentacula.

Macartney in Ph. Trans. 1810. part ii. p. 265.

7. SCINTIL-LANS.

[M. nearly spherical, with an irregular depression on one side, formed of an opaque substance, projecting a little way inwards; minute; luminous.

7. fig. 1. 5.?

Mull. Zool. Dan. i. 22. tab. Macartney in Ph. Trans. 1810. 8. Hemipart ii. p. 266.

SPHÆRICA.

[M. of a faint purple color; diameter about three quarters of an inch; margin of the umbella undivided, and surrounded internally by a row of pale brown spots, and numerous small twisted tentacula; four opaque lines cross in an arched manner from the circumference towards the centre of the animal; an opaque irregular sloped process hangs down from the middle of the umbella, divided at the extremity into four tentacula, covered with little cups or suckers.

These two species described by Mr. Macart-

ney, in the Philosophical Transactions, in a very ingenious dissertation upon luminous animals, contribute greatly to give that phosphoric appearance to the sea which is so generally observed, and which has been attributed to so many causes. The former are found in such quantities in Milford Haven, that a pint of these Medusæ have been obtained by filtration from a gallon of the sea-water in a luminous state. Ed.

9. ÆQUO-

Gm. Lin. 3153. Mem. Wern. Soc. 558.

\* M. orbicular, somewhat plane; margin inflected, villose, tentaculated.

Found in the Orkney and Shetland islands.

10. AURITA.

Gm. Lin. 3153. Mem. Wern. Soc. 558.

\* M. orbicular, with four cavities beneath. *Orkney* and *Shetland* isles.

11. CRUCI-

Gm. Lin. 3153. Turton Br. Faun. 139.

[M. body like a transparent jelly; margin fringed with fine fibres; disk marked with a white cross, each arm of which has a blackish spot.

Found on the Sussex coast.

Gm. Lin. 3154. Turton Br. Faun. 139.

12. CAPIL-

M. body whitish, semipellucid, convex, fragile; margin with sixteen indentures.

On the Kentish coast. Ed.

These animals inhabit all our seas; are gregarious; often seen floating with the tide in vast numbers; feed on insects, small fish, &c. which they catch with their claspers or arms. Many species, on being handled, affect with a nettlelike burning, and excite a redness. tients, and some of the moderns, add something more.\* They were known to the Greeks and Romans, t by the names of Πνευμα θαλλασσιος, and Pulmo marinus, Sea-Lungs. They attributed medicinal virtues to them. Dioscorides ‡ informs us, that if rubbed fresh on the diseased part, they cured the gout in the feet, and kibed heels. Ælian \says, that they were depilatory, and if macerated in vinegar, would take away the beard. Their phosphoric quality is well

<sup>\*</sup> Pruritum in pudendis, et uredinem in manibus et oculis movent, atque acrimonia sua, venerem sopitam, vel extinctam excitant. *Rondel.* 532. In several languages they are called by an obscene name.

<sup>†</sup> Arist. Hist. An. lib. v. c. 15. Dioscorides notis Matthiol. 341. Plinii, lib. ix. c. 47.

<sup>‡</sup> P. 341. § De Animal. lib. xiii. c. 27.

known; nor was it overlooked by the antients. *Pliny* notes, that if rubbed with a stick it will appear to burn, and the wood to shine all over.\* The same elegant naturalist remarks, that when they sink to the bottom of the sea, they portend a continuance of bad weather. I must not omit, that *Aristotle*, and *Athenœus* after him, give to some species the apt name of Knôŋ, or the *nettle*, from their stinging quality.†

The antients divided their  $\kappa_{\nu i} \delta_{\eta}$  into two classes, those that adhered to rocks, the *Actinia* of *Linnæus*; and those that wandered through the whole element. The last are called by later writers Urticas Solutas; by Linnæus, Medusas; by the common people Sea Gellies and Sea Blubbers.

I do not find that the moderns make any use of them. They are left, the prey of basking sharks, perhaps of other marine animals.

<sup>\*</sup> Lib. xviii. c. 35.

<sup>†</sup> Arist. Hist An. lib. v. c. 16. Athenœus, lib. iii. p. 90.

### GENUS XXXIII. ASTERIAS. SEA-STAR.

Body depressed; covered with a coriaceous coat; furnished with five or more rays, and numerous retractile tentacula.

Mouth in the center.

# \* Five-Rayed.

Ast. Lin. Syst. 1099. Gm. Stella coriacea acutangula luLin. 3162. tea vulgaris Lluidii. Linckii,
Faun. Suec. No. 2113. p. 31. tab. xxxvi. No. 61.

ALIS. Common.

Ast. with five rays depressed; broad at the base; sub-angular, hirsute, yellow; on the back, a round striated opercule.

These are found sometimes defective, or with only four rays. See *Linckius*, tab. xxxv. fig. 60.

Common in all our seas; feed on oysters, and are very destructive to the beds.

Stella pentapetalos cancellata Linckii, p. 32. tab. xiv. No. 2. C<sub>LA</sub>anomalos. 23. and tab. vii. No. 9. THRATA.
Cancellated

Ast. with five short thick rays; hirsute beneath; cancellated above.

Found with the former; more rare.

3. Oculata. Pentadactylosaster oculatus. Linckii, p. 31. tab. xxxvi. Dotted. No. 62.

Ast. with smooth rays, dotted or punctured; of a fine purple color.

Anglesey. Tab. xxxii. fig. 1.

4. IRREGU-LARIS. Rimmed. Astropecten irregularis. Linckii, p. 27. tab. vi. fig. 13.

Ast. with five smooth rays; the sides surrounded with a regular scaly rim; on the mouth, a plate in form of a cinquefoil; of a reddish hue.

5. HISPIDA. Stella coriacea acutangula hispida. Linckii, p. 31. tab. ix. Hispid. No. 19.

Ast. with five rays, broad, angulated at top; rough, with short bristles; brown.

Anglesey. Tab. xxxii. fig. 2.

6. GIEBOSA. Pentaceros gibbus et plicatus, Borlase's Cornwall, p. 260.
Gill'ous. altera parte concavus. Linckii, p. 25. tab. iii. No. 20.

Ast. with very short broad rays slightly projecting; a pentangular species, much elevated, small, covered with a rough skin; brown; the mouth in the midst of a pentagon.

Stella quinquefida palmipes. Pontoppidan's Norway, part 7. PLA-Linckii, p. 29. tab. i. fig. 2. ii. 179. CENTA. Flat.

Ast. with five very broad and membranaceous rays, extremely thin and flat.

Weymouth. From the Portland cabinet. Tab. xxxiii.

Pentadactylosaster spinosus regularis. Linckii, tab. iv. tab. xxv. fig. 18.

No. 7.

Borlase's Cornwall, p. 259. 8. Spinosa.
Spiny.

Ast. with five rays of almost equal thickness, beset with numerous spines.

Gm. Lin. 3161. Mem. Wern. Soc. 559.

Linckii, t. vii. f. 9. t. ix. x. Adams in Lin. Tr. v. 10.

fig. 19, &c.

\* Asr. stellated with four or six, but generally with five lanceolate convex spiny rays; varies infinitely in color.

Leith shore and islands of Scotland.

[And, according to Mr. Adams, not uncommon in Milford Haven, where it is found fourteen inches in diameter, and of a pale orange color. Ed.

10, Eques- Gm. Lin. 3164. f. 42. t. xxxiii. f. 53.

TRIS. Linckii, t. xii. f. 21. t. xxvi. Seb. Mus. iii. t. viii. f. 6. 8.

\* Ast. disk reticulated, and punctured; tubercles, five; margin somewhat jointed. A singular series of *tentacula* beneath.

Newhaven.

[A beautiful specimen found on the coast near Brodie House in Scotland is figured by Mr. Sowerby. Br. Misc. tab. 63. Ed.

\*\* Five-Rayed, with slender or serpentiform rays.

11. Minuta. Hirsuta, seu stella grallatoria Linckii, p. 50.

Minute. vel macrosceles Luidii. Adams in Lin. Tr. v. 9.

Ast. with a round body, and five very slender and long hirsute rays.

Found by Mr. Lluyd near Tenby.

12. LACER-TOSA. Lizard. Stella lacertosa. Linckii, p. 47. tal. ii. No. 4.

Ast. with five smooth slender rays, scaled, jointed, white. Linckius calls this Lacertosa, from the likeness of the rays to a Lizard's tail.

Anglesey. Tab. xxxiv. fig. 1.

Ast. with a pentagonal indented body, smooth 13. Sphæruabove the aperture; below five-pointed; between the base of each ray a small globular
bead; the rays slender, jointed, taper; hirsute
on their sides.

Anglesey. Tab. xxxiv. fig. 2.

Borlase's Cornwall, p. 260. tab. xxv. fig. 24.

14. PENTA-PHYLLA. Cinquefoil.

Ast. with the body regularly cinquefoil; rays very slender; hirsute on the sides, tessulated above and below with green, sometimes with sky-blue.

Cornwall.

Borlase's Cornwall, p. 259, tab. xxv. fig. 21.

15. VARIA. Pied.

Asr. with a circular body, with ten radiated streaks; the ends of a lozenge form; the rays hirsute, annulated with red.

Cornwall.

16. AcuLEATA.
Radiated.

Gm. Lin. 3166.

Linckii, tab. xxvi. fig. 42. tab.
xl. fig. 71.

tab. xxv. fig. 19.

Ast. with a round body, with streaks from its centre alternately broad and narrow; the rays slender, hirsute.

Cornwall.

17. Has-TATA. Javelin. Borlase's Cornwall, p. 259. tab. xxv. fig. 22.

Ast. with a pentagonal body indented; of a deep brownish-red hue, marked with ten och-raceous streaks; five of the streaks slender, with javelin-shaped extremities; rays hirsute, jointed.

Cornwall.

18. FISSA. Indented.

Borlase's Cornwall, p. 259. tab. xxv. fig. 20.

Ast. with a circular body, with five equidistant dents, penetrating deep into the sides; five light-colored streaks darting from the centre; rays slender, hirsute.

Cornwall.

Borlase's Cornwall, p. 260. tab. xxv. fig. 23.

19. NIGRA.

Ast. with a pentagonal body, black, with five radiating streaks of white; rays hirsute olivaceous, tessulated with deeper shades.

Cornwall.

Mont. in Lin. Tr. vii. 84.

20. BRACHI-

\* Ast. with a subpentangular body, covered with small oval scales; rays, five, very long, slender, tapering; the sides furnished with moveable spines; diameter of the body scarcely half an inch; length of the rays seven or eight inches, a disproportion not before observed in any species of Asterias: color purplish brown or bluish ash.

Found in sand in Salcombe Bay.

\*\* With more than five Rays.

Stella decacnemos rosacea, seu decempeda Cornubiensium.

Linckii, p. 55. tab. xxxvii. fig. 66.

21. Bifida.
Bifid.

Ast. with ten slender rays, beset with tendrils on their sides; the mouth surrounded with short filiform rays.

Cornwall.

NATA.
Pectinated.

Gm. Lin. 3166.
Stella decaenemos barbata, seu fimbriata, Barrelier. Linckii, p. 55. tal. xxxvii. fig. 64.

Adams in Lin. Tr. v. 10.\*
A. decacnemos. Br. Zool. iv. 66.

Ast. with ten very slender rays, with numbers of long beards on the sides; the body small, surrounded beneath with ten small filiform rays.

Inhabits the western coasts of *Scotland*, and is very common in *Milford Haven*. *Tab.* xxxv.

23. ENDECA. Gm. Lin. 3162. Sow, Br. Misc. tab. 24.

Linckii, t. 14. t. 25. t. 15, 16. f. 26. t. 17. f. 27.

\* Ast. with nine oblong, tapering rays, generally distinct, five, three, one; of a purplish brown color above; every part covered with pectinated tubercles; of a paler color beneath; diameter above three inches.

It varies with five, eight, or ten rays.

Found by James Brodie, Esq. in the Moray

Frith.

<sup>\*</sup> A very accurate description of this species is given by Mr. Adams, on whose authority the editor has adopted the Linnwan trivial name. Ep.

Gm. Lin. 3160.

Stella dodecactis Helianthemo similis. Linckii, p. 42. tab.

xvii. fig. 28. tab. xxxii. 24. PAPPOfig. 52. SA. Twelve-rayed.

Ast. with twelve broad rays finely reticulated, and roughened with fasciculated long *papillæ* on the upper part; hirsute beneath; red.

These vary into thirteen, such as the *Triscaidecactis* of *Linckius*. tab. xxxiv. fig. 54. I have had one of fourteen rays.

Asterias caput medusæ. Lin. Syst. 1101. Gm. Lin. 3167. Soe-Soele. Pontop. Norway, ii. 180.

Linckii, t. 18. f. 29. t. 19. f. 25. CAPUT 30. t. 20. f. 32. MEDUSÆ.

Ast. with five rays issuing from an angular body; the rays dividing into innumerable branches, growing slenderer as they recede from the base; the most curious of the genus.

Found in the north of *Scotland*. The late worthy Doctor *William Borlase* informed me that it had been taken off *Cornwall*.

Aristotle and Pliny\* called this genus Asty,

<sup>\*</sup> Aristot. Hist. An. lib. v. c. 15. Plinii Hist. Nat. lib. x. c. 60.

and stella marina, says the first, from their resemblance to the pictured form of the stars of heaven. They asserted that they were so exceedingly hot, as instantly to consume whatsoever they touched.

### GENUS XXXIII. ECHINUS.

Body covered with a sutured crust, often furnished with moveable spines. Mouth quinquevalve, placed beneath.

Echinus. Lin. Syst. 1102. Exivos wa. Aristot. Hist. An. 1. Escu-Gm. Lin. 3168. List. Angl. lib. iv. c. v. 169. tab. iii.

Eatable.

Ech. of a hemispherical form, covered with sharp strong spines, above half an inch long; commonly of a violet color, moveable; adherent to small tubercles elegantly disposed in rows. These are their instruments of motion, by which they change their place.

This species is often taken in dredging, and often lodges in cavities of rocks just within lowwater mark. Tab. xxxvi. fig. 1.

Are eaten by the poor in many parts of England, and by the better sort abroad. In old times a favorite dish. They were dressed with vinegar, honied wine, or mead, parsley and mint; and esteemed to agree with the stomach.\*

<sup>\*</sup> Athenœus, lib. iii. p. 91.

They are the first dish in the famous supper of Lucullus,\* when he was made Flamen Martialis, priest of Mars. By some of the concomitant dishes, they seemed designed as a whet for the second course, to the holy personages, priests, and vestals, invited on the occasion. Many species of shell fish made part of the feast. The reader will perhaps find some amusement in learning the taste of the Roman people of fashion in these articles.

Echini, the species here described.

Ostreæ crudæ, raw oysters.

Peloridx, † a sort of Mya, still used as a food in some places.

Sphondyli, a sort of Bivalve, with strong hinges, found in the Mediterranean sea. Not the gristly part of oysters, as Doctor Arbuthnot conjectures.

Patina Ostrearum. Perhaps stewed oysters.

Pelorides. Balani nigri et albi; two kinds of Lepades.

Sphondyli, again.

Glycymerides.‡ A shell. I suspect to be the same with the Mactra lutraria of this work.

<sup>\*</sup> Macrobius, as quoted by Arbuthnot.

<sup>†</sup> Rondel. Testacea, p. 11. ‡ Ibid. p. 13.

Murices, Purpuræ. Turbinated shells, whose species I cannot very well determine, there being more than one of each in the Italian seas.

Echinus spatagus. Lin. Syst. Ech. cordatus. Br. Zool. 2. Spata1104. Gm. Lin. 3199. List. iv. 69.

App. tab. i. fig. 13.

Ech. of an oval shape, gibbous at one end, and marked with a deep *sulcus* at the other; covered with slender spines resembling bristles. Shell most remarkably fragile.

Length, two inches. Tab. xxxvi. fig. 2.

Gm. Lin. 3197. Ech. lacunosus. Br. Zool. iv. 69.

3. Purpureus. Purple.

Ech. of a cordated depressed form; on the top, of a purple color, marked with a quadrefoil, and the spaces between tuberculated in waved rows; the lower sides studded; and divided by two smooth spaces.

Length, four inches. When cloathed, is covered with short thickset bristles mixed with very long ones.

Weymouth. From the Portland cabinet. Tab. xxxvii.

Doctor Borlase gives a figure of an Echinus, found in Mount's Bay, that resembles in shape

the above; but I cannot, either from description or print, determine whether it be the young, or distinct. Vide Nat. Hist. Cornwall, p. 278. tab. xxviii. fig. 26.

4. CIDARIS. Gm. Lin. 3174. Mem. Wern. Soc. 359.

\* Ech. hemisphæric, depressed, with five linear flexuous *ambulacra* or avenues, the intervening compartments alternately bifarious.

VAR. A. Gm. Lin. 3174. α? Sow. Br. Misc. tab. 44.

\* This variety is covered with spines of very different sizes, the largest are flat, and in length nearly equal to the diameter of the body, blunt at the ends, and some of them partly spatulate.

Found on the coast of Shetland.

5. PLACENTA. Gm. Lin. 3195. Mem. Wern. Soc. 559.

\* Ech. subconic, of ten compartments, each alternate, one narrower; five plain avenues dehiscent or gaping at the ends.

From the isle of Fulah; rare.

6. Pulvinu- \* Ech. of a form nearly hemisphæric, someus. what depressed, with five linear truncated avenues, two of them shorter than the others; the (anus) vent is round, placed about midway between the mouth and the margin, with four pores at the top; color whitish; somewhat concave beneath; often nearly circular, sometimes more ovate; diameter not exceeding three tenths of an inch.

I have seen none of this delicate species till after it had lost its spines, and have only found it in *Red Wharf* sands in *Anglesey*. *Tab.* xxxviii. *fig.* 1, 2. *fig.* 3, much magnified.

# DIV. III. TESTACEA.

## VERMES.

Of the soft kind, and simple make, commonly covered with a calcareous habitation, or shell.

# SECT. I. MULTIVALVE SHELLS.

GENUS I. CHITON. COAT OF MAIL.

Animal, or inhabitant of its shell, a *Doris*.

Shell plated, consisting of many parts, lying upon each other transversely.

1. CRINITUS. hairy.

Gm. Lin. 3206. Lin. Tr. viii. 20. Mont. Test. Br. 4.

CH. with seven valves; thick set with short hairs; five-eighths of an inch long.

Inhabits the sea near Aberdeen. Tab. xxxix. fig. 1. of the natural size; fig. A. 1. magnified.

Lin. Tr. viii. 20. Mont. Test. Br. 3. id. Sup. 1. 2. DISCORS.

\* CH. with seven valves ridged, having a broad margin, with slight appearances of net-work; the four middle valves divided transversely; the hinder part rough, the foremost smoothish; length half an inch.

Discovered by Mr. Montagu in Salcombe bay; rare. Variety of the next species?

Gm. Lin. 3206. Mont. Test. Br. 1. id. Sup. Lin. Tr. viii. 21. t. 1. f. 2. 1.

3. MARGI-NATUS. marginated.

CH. with eight valves; with a serrated reflected margin, smooth; size of the figure. Tab. xxxix. fig. 2.

Inhabits the sea near Scarborough.

Gm. Lin. 3202. Lin. Tr. viii. 21. t. 1. f. 1. Mont. Test. Br. 5.

4. FASCICU-

\* CH. with eight valves, the sides thickly set with small tufts of whitish hairs; length five eighths of an inch; breadth two eighths of an inch.

Adheres to rocks in the sea.

5. LÆVIS. smooth.

Gm. Lin. 3206. Lin. Tr. viii. 21. Mont. Test. Br. 2.

CH. with eight valves; quite smooth, with a longitudinal mark along the back, a little elevated. Size of a wood-louse. Tab. xxxix. fig. 3. Inhabits the shores of Loch Broom in West Ross-shire.

6. CINE-REUS. Gm. Lin. 3204.

Mont. Test. Br. 3.

Lin. Tr. viii. t. 1. f. 3.

\* Ch. with eight valves, smooth, ridged, body reddish, the margin subciliated; length a quarter of an inch.

Found on oysters on the Dorsetshire coast.

7. ALBUS.

Gm. Lin. 3204. Lin. Tr. viii. 22. t. 1. f. 4.

Mont. Test. Br. 4.

\* CH. with eight valves, smooth, scarcely ridged; body white; smaller than the preceding.

Adheres to shells and fuci in the sea near Poole.

Gm. Lin. 3203.

Mem. Wern. Soc. 628.

8. RUBER.

\* CH. with eight valves, arcuated, somewhat striated; body red.

Found on stalks of fucus digitalis near Dunbar.

The name *Chiton*, taken from  $\chi_{i\tau\omega\nu}$ , *lorica*, a coat of mail. All this genus are inhabitants of the sea, and are found adhering to stones, shells, or submarine plants.

### GENUS II. LEPAS.\* ACORN-SHELL.

ANIMAL, a Triton.

Shell of several erect unequal valves, fixed by a stem: or sessile.

1. BALANUS. Lepas. Lin. Syst. 1107. Gm. Common English Barnacle. common. Lin. 3207, Faun. Suec. No. 2122. Lin. Tr. viii. 23.

Ellis Ph. Tr. 1758. tab. xxxiv. fig. 17. Mont. Test. Br. 6.

\* L. with a shell of six unequal valves, conoid, truncated, sulcated, strong, rough, lid or operculum pointed. In this species the points of the four divisions of the operculum lie close together, but are not connected, and the transverse striæ of the upper pair are themselves transversely striated, and the lower pair have each a longitudinal furrow: size, an inch or an inch and half in diameter at the base, and one half or three quarters of an inch at the top; height from half to one inch and a quarter.

Found adhering to rocks, oysters, and shellfish of various sorts. Tab. xl. fig. 1.

L. Lin. Syst. 1108. Gm. Lin. 3207. Faun. Suec. No. 2123. List. Angl. tab. v. fig. 41. Lin. Tr. viii. 23.

Mont. Test. Br. 7.

2. BALA-NOIDES. sulcated.

\* L. with six unequal valves, conoid, truncated, sulcated, smooth; operculum obtuse; at each of the ends of the lower divisions of the operculum there is a groove and process, which unite with a similar groove and process in each corresponding part of the upper division; the transverse striæ on the upper pair are plain, or not striated; an unerring character by which it may be distinguished from L. Balanus; size at the base from one quarter to six-eighths of an inch, height from a quarter to half an inch.

Adheres to the same bodies. Tab. xl. fig. 2.

Lepas Cornubiensis. Ellis Ph. Tr. 1758. tab. xxxiv. fig. 16. Borlase Nat. Hist. Cornwall.

Lepas punctata. Lin. Tr. viii. 3. CORNUBI-24.? ENSIS. Balanus punctatus. Mont. Test.

L. in form of a limpet, with a dilated bottom, and rather narrow aperture; the shell sulcated near the lower edges; lids obtuse. Diameter a quarter of an inch. *Tab.* xl. *fig.* 3.

4. STRIATA. Lepas intertexta. Lin. Tr. viii. Balanus striatus. Mont. Test. striated. 26. Br. 12. id. Sup. 2.

L. with the shells lapping over each other, and obliquely striated; breadth a quarter of an inch.

The sea near Weymouth. Tub. xli. fig. 1. From the Portland cabinet.

5. CO-NOIDES. Lin. Tr. viii. 24.

Mont. Test. Br. 12.

\* L. with a conic shell, valves pointed, aperture much contracted; size a quarter of an inch.

Affixed to Lepas anatifera near Weymouth.

6. COSTATA.

Lin. Tr. viii. 24.

Mont. Test. Br. 11.

\* L. with a shell nearly conic; numerous ribs diverging from the aperture; lids pointed, white. Coast of *Pembrokeshire*.

7. TINTIN-NABULUM. bell. L. Lin. Syst. 1108. Gm. Lin. 3208.

Lin. Tr. viii. 25. Mont. Test. Br. 10.

L. with a shell of twelve compartments, the six prominent purple; and striated lengthways:

the six depressed are greyish, and striated across; as large as a walnut.

Found frequently adhering to the bottom of ships, in great clusters. Probably originated in hot climates.

Lin. Tr. viii. 25.

Mont. Test. Br. 8. id. Sup. 1. 8. RUGOSA.

\* L. with a shell somewhat cylindrical, lids sharp pointed, length three quarters of an inch.

\*Dorsetshire coast.

Gm. Lin. 3213. Lin. Tr. viii. 26. Bal. clavatus. Mont. Test. Br. 9. ELON-10. GATA.

\* L. with an elongated club-shaped shell; aperture diverging, operculum obtuse. The particular characters of this species are its extraordinary height (those found on the coast of Anglesey measuring full one inch and three quarters), and its invariably wide-gaping aperture, the reverse of all the other species: is from two tenths to a quarter of an inch broad; the operculum is precisely of the same structure with that of L. balanoides, unless the striæ, which cross the upper divisions of the operculum, assume more of the form of lamine, and have in a great measure the appearance of being imbricated. Tab. xl. fig. 4.

10. SPON-GEOSA. Mont. Test. Br. Sup. 2. tab. 17. f. 4. 5. 6.

\* L. with an ovate shell, and six wrinkled pointed valves furnished with numerous spines; oper-culum of four valves, the anterior pair rough with decussated striæ; length half an inch; breadth less.

ll. CON-VEXULA.

\* L. with a smooth, truncated, subdiaphanous, elliptic shell; operculum convex. This delicate species, which I do not find described, is very frequent on the coast of Anglescy, on rocks and limpets; the shell is evenly truncated; its height is not quite one half of its length; aperture very large; operculum regularly convex, higher than the sides, smooth, unless there be a faint stria on each side of the juncture of the larger divisions of the operculum, each of the ends of which form the segment of a circle; and the juncture of them with the lesser parts is transverse, and at about one fourth of their length from the end; the color of it is a faint purple; the size little more than the twentieth part of an inch. Tab. xxxviii. fig. 2. much magnified.

Gm. Lin. 3208. Lin. Tr. viii. 27.

Mont. Test. Br. 13.

12. DIADE-MA.

\* L. with a shell somewhat depressed, hemispheric, of twelve copartments, six flat transversely striated, the others prominent with longitudinal ridges; one inch high, full two inches diameter at the base.

Common on the northern coast,

### \*\* Barnacle.

Gm. Lin. 3210. Lin. Tr. viii. 27. Mont. Test. Br. 18. t. 1. f. 4. 13. SCAL-

PELLUM.

\* L. with a shell of thirteen valves, compressed, smoothish, placed on a scaly stalk: five eighths of an inch long, three eighths broad.

Found near Sandwich and Plymouth.

Gm. Lin. 3210. Lin. Tr. viii, 28. Mont. Test. Br. 16.

14. ANSERI-FERA.

\* L. with a shell of five valves, compressed, striated, placed on a stalk; one inch long, three quarters of an inch broad.

On drifted wood on the south coast of Deronshire.

15. ANATI- L. Lin. Syst. 1109. Gm. Lin. Lin. Tr. viii. 28.
 FERA. 3211. Faun. Suec. No. 2120. Mont. Test. Br. 15.
 List. Conch. tab. 439.

L. consisting of five shells, compressed, affixed to a pedicle, and in clusters. *Tab.* xli. *fig.* 2. Adheres to ships bottoms by its pedicles.

The tentacula from its animal are feathered; and have given our old English historians and naturalists the idea of a bird. They ascribed the origin of the Bernacle Goose to these shells. The account given by the sage Gerard, is so curious, that I beg leave to transcribe it.

- 'But what our eyes have seene, and hands' have touched, we shall declare. There is a
- 'small island in Lancashire called the Pile
- ' of Foulders, wherein are found the broken
- ' pieces of old and bruised ships, some whereof
- ' have been cast thither by shipwracke, and
- ' also the trunks and bodies with the branches
- ' of old and rotten trees, cast up there likewise;
- ' whereon is found a certaine spume or froth
- ' that in time breedeth unto certaine shels, in
- ' shape like those of the Muskle, but sharper
- ' pointed, and of a whitish colour; wherein is
- ' contained a thing in form like a lace of silke
- ' finely woven as it were together, of a whitish

colour; one end whereof is fastened unto the ' inside of the shell, even as the fish of Oisters and Muskles are: the other end is made fast ' unto the belly of a rude masse or lumpe, which in time commeth to the shape and form of a bird: when it is perfectly formed, the ' shell gapeth open, and the first thing that ' appeareth is the foresaid lace or string; next ' come the legs of the bird hanging out, and as it groweth greater it openeth the shell by degrees, till at length it is all come forth, and ' hangeth onely by the bill: in short space after ' it commeth to full maturitie, and falleth into the sea, where it gathereth feathers, and groweth to fowle bigger than a Mallard and lesser than a Goose, having blacke legs and bill or beake, and feathers blacke and white, spotted ' in such manner as is our Mag-Pie, called in ' some places a Pie-Annet, which the people of Lancashire call by no other name than a ' tree Goose: which place aforesaid, and all ' those parts adjoining, do so much abound ' therewith, that one of the best is bought for three-pence. For the truth hereof, if any ' doubt, may it please them to repaire unto me, ' and I shall satisfie them by the testimonie ' of good witnesses.' Vide HERBAL, p. 1587, 1588.

This genus is called by Linnæus, Lepas, a name that is given by the antients to the Patella. Shells of this class are called by Aristotle,  $B_{\alpha\lambda\alpha\nu0l}$ , from the resemblance some of them bear to acorns. We have seen before, in the account of the supper of Lentulus, that they were admitted to the greatest tables.

16. SUL-CATA.  $\mathit{Lin.\ Tr.\ viii.\ 29.}$ 

Mont. Test. Br. 17. t. 1. f. 6.

\* L. with a shell of a somewhat triangular form; of five valves, furrowed; color white; the dorsal valve striated lengthways; length a quarter of an inch.

Discovered by Mr. Montagu on the coast near Portland.

17. FASCI-CULARIS. Lin. Tr. viii. 30.

Mont, Test. Br. 557. id. App. 163. id. Sup. 5.

\* L. with a shell of five valves, smooth, the ridge valves widened at the base with a sharp prominent heel; about the size of L. anatifera. Discovered by Ellis in St. George's Channel.

† Hist. an. lib. v. c. 15.

Gm. Lin. 3213. Mont. Test. Br. Sup. 6. tab. 28. f. 5.

18. POLLI-

\* L. with an erect compressed shell, of many smooth valves; four of them larger and above twenty smaller, placed on a short coriaceous scaly stem; length, including stem, about two inches and an half.

#### Mont. Test. Br. App. 164.

19. MEMBRA-

\* L. with a shell of five valves, connected by broad membranes, and supported by a short pedicle; length half an inch; breadth a quarter of an inch.

### GENUS III. PHOLAS. PIERCE-STONE.

Animal, an Ascidia.

Shell, two large valves open at each end, with several lesser shells at the hinge.

Hinges folded back, united with a cartilage.
Tooth incurvated in the inside beneath the hinge.

1. DACTY- Ph. Lin. Syst. 1110. Gm.
Lus.
dactyle.

Lin. 3214. Faun. Suec.
No. 2124. List. Angl. App.
tab. xi. fig. 3.

Lin. Tr. viii. 30. Mont. Test. Br. 20.

Ph. with an oblong shell, marked with echinated striæ; the tooth broad; the space above the hinge reflected, and cancellated beneath; breadth four inches and a half; length one inch and a quarter. Tab. xlii. fig. 1.

2. CANDIDA. Ph. Lin. Syst. 1111. Gm. white. Lin. 3215. List. Angl. tab. v. fig. 39.

Lin. Tr. viii. 31. Mont. Test. Br. 24.

PH. with a brittle shell, and smoother than the former; the tooth very slender; breadth an inch

and an half; length near an inch. Tab. xlii. fig. 2.

Gm. Lin. 3215. Lin. Tr. viii. 32. Mont. Test. Br. 26.

3. STRIATA.

\* Ph. with a shell somewhat oval, striated in many various directions; length half an inch, breadth three quarters.

Probably not a native of our shores.

Ph. Lin. Syst. 1111. Gm. Lin. 3216. Solen crispus. ib. 3228. List. Angl. tab. v. fig. 38. Faun. Suec. No. 2125. Lin. Tr. viii. 32. Mont. Test. Br. 23. 4. CRIS-PATA. curled.

PH. with a strong oval shell; the half next to the hinge waved and striated; tooth large and strong; breadth three inches and a half; length one inch and three quarters. Tab. xliii. fig. 1.

Lin. Tr. viii. 33.

Mont. Test. Br. 22. t. 1. f. 7. 8.

5. PARVA.

PH. with a shell thinner than the former; and the tooth very slender and oblique; in externals resembling the preceding, only never found larger than a hazel nut. *Tab.* xliii. fig. 2.

This genus takes its name from φωλεω, to lurk in cavities. A shell of the name of pholis

and *pholas* is mentioned by *Aristotle* and *Athenœus*; but I suspect it to be the *dactylus* of *Pliny*. A species now called *datyl*, abounding within the rocks of the *Mediterranean*, is much admired as a food.\*

I have often taken them out of the cells they had formed in hard clay, below high-water mark, on many of our shores. They also perforate the hardest oak plank that accidentally is lodged in the water. I have a piece filled with them, which was found near *Pensacola* in *West Florida*, and presented to me by that ingenious naturalist the late *John Ellis*, Esq.

I have also found them in masses of fossil wood, in the shores of Abergeleu in Denbighshire. The bottoms of the cells are round, and appear as if nicely turned with some instrument.

<sup>\*</sup> Pliny, lib. ix. c. 61. Armstrong's Hist. Minorca, 173.

# SECT. II. BIVALVE SHELLS.

## GENUS IV. MYA. GAPER.

Animal, an Ascidia.

SHELL gaping at one end.

HINGE, for the most part, furnished with a thick, strong, and broad tooth, not inserted into the opposite valve.

M. Truncata. Lin. Syst. 1112.
Gm. Lin. 3217. Fuun. Suec.
No. 2126.

List. Angl. tab. v. fig. 36. Lin. Tr. viii. 35. Mont. Test. Br. 32.

1. TRUN-CATA. abrupt.

M. with a broad, upright, blunt tooth, in one shell; the closed end rounded; the open end truncated, and gaping greatly; the outside yellow, marked with concentric wrinkles; length an inch and an half, breadth three inches. *Tab.* xliv.

Lodged under muddy ground, near low-water mark; discovered by an aperture in the slime, beneath which it is found in coarse gravel.

2. GLYCI-MERES.

Gm. Lin. 3222. Lin. Tr. viii. 34.

Mont. Test. Br. Sup. 19.

\* M. with a shell gaping at each end, very strong, lamellated, oblong-ovate, transversely wrinkled, striated, the primary hinge tooth very strong; length five inches, breadth ten inches.

Said to have been found between the *Dogger* Bank and the eastern coast of England?

3. DECLI-VIS. sloping. *Lin. Tr.* viii. 36.

Mya pubescens. *Mont. Test.* Br. 40.

M. with a brittle half-transparent shell, with a hinge slightly prominent; less gaping than the truncata; near the open end sloping downwards.

Frequent about the *Hebrides*; the fish eaten by the gentry.

4. PRÆTE- Lin. Tr. viii. 37. Tellina fragilis. Br. Zool. iv. NUIS. Mont. Test. Br. 41. t. 1. 86.

M. with a thin brittle whitish ovate shell, having a few concentric striæ; hinge tooth broad, and hollowed in the middle, or spoon-

shaped, in each valve; length one inch, breadth two inches. *Tab.* 1. *fig.* 1.

On the western coast, from *Poole* to *Falmouth*,

Lin. Tr. viii. 37.

Mont. Test. Br. 42. t. 1. f. 1. 5. DISTORTA.

\* M. with a shell somewhat ovate; valves distorted, convex, hinge tooth strong; shell white, brittle, nearly transparent; length three quarters of an inch, breadth one inch.

Found by Mr. Montagu in limestone near Plymouth.

### Lin. Tr. viii. 37.

6. BATAVA.

\* M. with a shell nearly oval, rounded at each end; length one inch, breadth one inch and three quarters.

Found in the river Kennet, near Newbury, Berkshire.

M. arenaria. Lin. Syst. 1112.
Gm, Lin. 3218. Faun. Suec.
No. 2127.

Lin. Tr. viii. 35. Mont. Test. Br. 30.

7. ARENA-RIA. sand.

M. with a tooth like that of the Mya declivis; mouth large; rough at the base; the whole shell of an ovated figure, and much narrower at

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the gaping end. Three inches and a half broad; two inches long in the middle. Tab. xlv.

8. PICTORUM.

M. pictorum. Lin. Syst. 1112. Lin. Tr. viii. 38.

Gm. Lin. 3218. Faun. Suec. Mya ovalis. Mont. Test. Br.

No. 219. 34.

List. Angl. App. tab. 1. fig. 4.

M. with an oval brittle shell. The primary hinge tooth on one valve is crenulated, and received into a corresponding double tooth on the other valve. Breadth from three to four inches; length two. Inhabits rivers. *Tab.* xlvi. fig. 1.

Used to put water colors in; whence the name. Otters feed on this and the other freshwater shells.

9. OVATA. Lin. Tr. viii. 39. M. ovalis. Mont. Test. Br. 34.

\* M. with an ovate shell, narrower at one end; hinge tooth the same as in the last, but near the posterior end; length one inch and three quarters, breadth three inches and a quarter.

Found with the M. pictorum in the rivers Ouze, in Yorkshire; Avon, Somersetshire; and the New River, near London.

Lin. Syst. 1112. Gm. Lin. 3219. Faun. Suec. No. 2130.

Scheffer Lapland, 145. Lin. Tr. viii. 40. Mont. Test. Br. 33. 10. MARGA-RITIFERA. pearl.

List. Angl. App. tab. 1. fig. 1.

M. with a very thick coarse opake shell; often much decorticated; oblong, bending inward on one side, or arcuated; black on the outside; usual breadth from five to six inches; length two and a quarter. Tab. xlvi. fig. 2.

Inhabits great rivers, especially those which water the mountanous parts of *Great Britain*.

This shell is noted for producing quantities of pearl. There have been regular fisheries for the sake of this pretious article in several of our rivers. Sixteen have been found within one shell. They are the disease of the fish, analogous to the stone in the human body. On being squeezed, they will eject the pearl, and often cast it spontaneously in the sand of the stream.

The Conwy was noted for them in the days of Camden. A notion also prevales, that Sir Richard Wynn, of Gwydir, chamberlain to Catherine queen to Charles II. presented her majesty with a pearl (taken in this river) which is to this day honored with a place in the regal

crown. They are called by the Welsh, Cregin Diluw, or Deluge Shells, as if left there by the flood.

The Irt in Cumberland was also productive of them. The famous circumnavigator, Sir John Hawkins,\* had a patent for fishing that river. He had observed pearls plentiful in the Straits of Magellan, and flattered himself with being inriched by procuring them within his own island.

In the last century, several of great size were gotten in the rivers of the county of *Tyrone* and *Donegal*, in *Ireland*. One that weighed 36 carats was valued at 40l. but being foul, lost much of its worth. Other single pearls were sold for 4l. 10s. and even for 10l. The last was sold a second time to Lady Glenlealy, who put it into a necklace, and refused 80l. for it from the Duchess of *Ormand*.

Suetonius reports, that Clesar was induced to undertake his British expedition for the sake of our pearls; at comparing the sizes of which he was so expert, as sometimes to have ascertained the weight by his hand only. ‡ I imagine that Clesar only heard this by report; and

<sup>\*</sup> Camden. ii. 1003. † Ph. Tr. Abridg. ii. 831.

<sup>\*</sup> Sicton. Fit. Jul. Cas. c. xliv.

that the crystalline balls in old leases, called mineral pearl, were mistaken for them.\*

We believe that Cxsar was disappointed of his hope: yet we are told that he brought home a buckler made with British pearl,  $\uparrow$  which he dedicated to, and hung up in the temple of Venus Genetrix. A proper offering to the Goddess of Beauty, who sprung from the sea. I cannot omit mentioning, that notwithstanding the classics honor our pearl with their notice, yet they report them to have been small and ill colored; an imputation that in general they are still liable to.  $Pliny \uparrow$  says, that a red small kind was found about the Thracian Bosphorus, in a shell called Mya, but does not give it any mark to ascertain the species.

Lin. Tr. viii. 33. Mya Pholadia. Mont. Test. 11. DUBIA.

Br. 28. dubious.

M. with a rudiment of a tooth within one shell; with an oval and large *hiatus* opposite to the hinge. Shells brown and brittle.

Shape of a *pistachia* nut. Length of a horsebean. *Tab.* xlvii.

<sup>\*</sup> Woodward's Method of Fossils, 29. part ii.

<sup>+</sup> Plinii, lib, ix. c. 35. Tacitus Vit. Agricola.

<sup>†</sup> Plinii, lib. ix. c. 35.

Found near Weymouth. From the Port-LAND cabinet.

12. INÆQUI-VALVIS. Lin. Tr. viii. 40. t. 1. f. 6. Mont. Test. Br. 38.

\* M. with a shell somewhat triangular; strong, opake white; one valve nearly double the size of the other; back swelling out and bending inwards; in size rather smaller than a horsebean.

Coasts of Kent, Cornwall, and Devonshire.

13. BIDEN-TATA. Lin. Tr. viii. 41. Mont. Test. Br. 44.

\* M. with a shell somewhat oval, flattened; at the hinge one valve has two broad diverging teeth; the other valve has none; color dull white. Minute.

Found by Mr. *Montagu* in old oyster-shells in *Salcombe Bay*.

14. SUBOR-BICULARIS. Lin. Tr. viii. 41. Mont. Test. Br. 39.

\* M. with a shell in some degree spherical; a single hinge tooth in one valve received into a double tooth on the other, with lamellated side teeth; length three-eighths of an inch, breadth half an inch; resembles *Tellina cornea*.

### CLASS VI. MYA. GAPER.

Discovered by Mr. Montagu in hard limestone at Plymouth.

Mont. Test. Br. Sup. 20.

15. DECUS-SATA.

\* M. with a white ovate shell, with irregular concentric ridges decussated by regular longitudinal *striæ*, which form tubercles at the anterior end; margin waved; length half an inch, breadth rather more.

Frith of Forth; rare.

Mont. Test. Br. Sup. 21.

16. PURPU-REA.

\* M. shell slightly wrinkled transversely, whitish, with a purple tinge near the beak; minute.

Taken amongst coralline in deep water; Devonshire coast.

Mont. Test. Br. Sup. 22. ib. 166.

17. FERRU-

\* M. with a white subovate shell, moderately convex with obsolete wrinkles; beak obtuse, near one end front margin nearly strait; breadth half an inch, length a quarter of an inch.

Found on Belton sand near Dunbar in Scotland.

18. NITENS.

Mont. Test. Br. Sup. App. 165.

\* M. with an ovate shell regularly striated concentrically; color pink and white; a single tooth in one valve enters a cleft in the other; about a quarter of an inch long, and three-eighths of an inch broad.

Near Dunbar; extremely rare.

# GENUS V. LIGULA. SPOON-HINGE SHELL.

Animal, an Ascidia.

Shell equivalve.

HINGE, with a broad tooth on each valve projecting inwards, furnished with a cavity for the reception of the connecting cartilage.

Mont. Test. Br. Sup. 23. tab. 26. f. 3.

1. PRISMA-TICA.

\* Li. shell oblong, flat, thin, glossy, white, considerably attenuated at one end, and obsoletely striated concentrically; beak nearer the smaller end; length three-eighths of an inch, breadth six-eighths.

Coast of Devonshire.

Mont. Test. Br. Sup. 25.

2. SUBSTRI-ATA.

\* L1. with a white, sub-ovate, sub-pellucid shell, wrought with distant, obsolete, elevated, longitudinal *striæ*; inside plain; margin smooth; diameter one-tenth of an inch.

# 170 LIGULA. SPOON-HINGE SHELL. CL. VI.

Taken by deep dredging on the *Devonshire* coast; very rare; discovered by Mr. *Montagu.*\*

\* Mr. Montagu, in the Supplement to his Testacea Britannica, expresses a wish that the Mya prætenuis, M. pubescens, M. distorta, and the Mactra tenuis, M. compressa, M. Boysii, should be comprehended in this new genus. We lament, in common with others, that it should have received a name which had been previously appropriated to one of the Vermes Intestinæ. Ep.

## GENUS VI. SOLEN. RAZOR-SHELL.

Animal, an Ascidia.

Shell oblong, open at both ends.

TOOTH, a subulated, at the hinge, turned back, often double; not inserted in the opposite shell.

Lin. Syst. 1113. Gm. Lin. 3223. Faun. Suec. No. 2131. List. Angl. tab. v. fig. 37.

List. Conch. tab. 409. Lin. Tr. viii. 43. Mont. Test. Br. 46.

1. SILIQUA. pod.

S. with a strait shell, equally broad, compressed, with a double tooth at the hinge, receiving another opposite; and on one side another tooth sharp pointed, and directed downwards. Color olive, with a conoid mark of an ash color, dividing the shells diagonally; one part striated lengthways, the other transversely. Breadth usually five or six inches, sometimes nine. Tab. xlviii. fig. 1.

Lin. Syst. 1113. Gm. Lin. 3223. List. Conch. tab. 410.

Lin. Tr. viii. 42. Mont. Test. Br. 48. 2. VAGINA. shcath.

S. with a shell nearly cylindrical, one end marginated; the hinge consisting of a single tooth

in each shell placed opposite. Shell yellow, marked much like the former; usually about five or six inches broad. *Tab.* xlix. *fig.* 1.

Inhabits Red Wharf, Anglesey.\*

3. NOVA-

Lin. Tr. viii. 44. Mont. Test. Br. 47.

\* S. with a strait shell somewhat compressed; single bent hinged-tooth in each valve; has much the appearance of the S. Siliqua, but the teeth turn contrary ways, and when closed, clasp into each other.

Found near *Llaugharne*, *Caermarthenshire*, by Mr. *Montagu*.

4. ENSIS. scymeter.

Lin. Syst. 1114. Gm. Lin. 3224. List. Angl. App. tab. ii. fig. 9. List. Conch. tab. 411.

Lin. Tr. viii. 44. Mont. Test. Br. 48.

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S. with a shell bending like a scymeter, with hinges like those of the *Siliqua*; and colored and marked like it. The shell thin, and rounded at each end. Usual breadth four or five inches. *Tab.* xlviii. *fig.* 2.

<sup>\*</sup> First noticed by the reverend Hugh Davies. ED.

Lin. Tr. viii. 44. Mont. Test. Br. 49.

5. PELLUCI-DUS. pellucid.

S. sub-arcuated and sub-oval; with the hinge consisting of a sharp double tooth on one side, receiving a single one from the opposite, with a process in each shell, pointing towards the cartilage of the hinge. Shell fragile, pellucid; about an inch broad.

Inhabits Red Wharf, Anglesey.\* Tab. xlix. fig. 2.

Lin. Syst. 1114. Gm. Lin. 3224. List. Conch. tab. 420. Lin. Tr. viii. 45. Mont. Test. Br. 50. 6. LEGUMEN. sub-oval.

S. with a strait sub-oval shell; with teeth exactly resembling those of the last, furnished likewise with similar processes; one end is somewhat broader than the other. Usual breadth about two inches and an half. Shell sub-pellucid, radiated from the hinge to the margin.

Inhabits the same place. Tab. xlix. fig. 3.

<sup>•</sup> Discovered about the year 1770, by the Rev. Hugh Davies, on the coast of Efionydd, Caernarvonshire, and afterwards at Red Wharf. Ep.

7. ANTI-QUATUS. kidney.

Solen coarctatus. Gm. Lin. 3227? List. Conch. 421.

S. antiquatus. Lin. Tr. viii. 46. Mont. Test. Br. 52.

S. with a kidney-shaped shell; with a single tooth in one valve locking in between two teeth in the opposite. The shell covered with a rough epidermis. Breadth nearly two inches; length seven-eighths of an inch.

Inhabits the sea near Weymouth.

This species borders on the myx, and connects the genera. Tab. xlix. fig. 4.

8. FRAGILIS.

Mont. Test. Br. 51. id. Sup. 26.

\* S. with an oblong pellucid shell, rounded at the ends; hinge near the middle; a single subulate tooth in one valve, and a double dissimilar recurved in the other; breadth an inch and an half, length half an inch.

Found on the *Dorsetshire* coast.

TINUS.

9. VESPER- Lin. Tr. viii. 47. Mont. Test. Br. 54. Gm. Lin. 3228.

Tellina depressa. Br. Zool. 4to. iv. 73. t. 47. f. 27.

\* S. with an oblong-ovate shell, compressed, a single hinge tooth of one valve received into a forked one in the other; length one inch and a quarter, breadth two inches and an half. Tab. l. fig. 2.

Lin. Tr. viii. 47. Mont. Test. Br. 53. Gm. Lin. 3226.

10. MINU-TUS.

\*S. with an oval shell, abrupt at one end close to the hinge, the other end of the valves toothed; length a quarter of an inch, breadth half an inch.

Found by Mr. Montagu burrowed in limestone at Plymouth.

Lin. Tr. viii. 48.

Mont. Test. Br. 565.

11. SQUA-MOSUS.

\* S. with a shell somewhat circular, with two forked hinge-teeth diverging from the beak; length three-eighths, breadth half an inch.

Discovered by Mr. Montagu in Salcombe Bay.

Lin. Tr. viii. 48.

Mont. Test. Br. 566. id. Sup. 27.

12. PINNA.

\* S. with an ovate compressed shell, the valves from the hinge forming a strait line; delicate, white, transparent, with frequent concentric wrinkles; one tooth in each valve.

First observed by Mr. Pennant at Weymouth. Tab. lxvii. fig. 3.

I am not acquainted with the natural history of the sixth and seventh. The four first lurk in the sand near low-water mark, in a perpendicular direction: and when in want of food, elevate one end a little above the surface, and protrude their bodies far out of the shell. At approach of danger, they dart deep into the sand, sometimes at lest two feet. Their place is known by a small dimple on the surface. Sometimes they are dug out of the sand with a shovel; at other times are taken by a bearded dart suddenly struck into them. They were used as a food by the antients. Athenœus\* (from Sophron) speaks of them as great delicacies, and particularly grateful to widows:

Μακςαὶ κόγχαι σωλενες τοῦτιγα Γλυκυκςεων κογχύλιον χηςᾶν γυναικῶν λιγχνεῦμα.

Oblongæ conchæ solenes, et carne jucundâ Conchylium, viduarum mulierum cupediæ.

These are often used as a food at present; and brought up to table fried in eggs.

<sup>\*</sup> Lib. iii. p. 86.

### GENUS VII. TELLINA. BENT-WEDGE.

Animal, a Tethys.

Shell generally sloping on one side.

TEETH, three at the hinge; side teeth in one of the valves flat or wanting.

\* Ovate, thickish.

Lin. Tr. viii. 48. id. iii. 252.

1. MACU-LATA.

T. with a shell nearly ovate; thick, striated in a decussated manner, irregularly spotted.

Found at Tenby, South Wales.

\*\* Ovate compressed.

Gm. Lin. 3235. T. Bornii. ib. 3231.

Lin. Tr. viii. 49. Mont. Test. Br. 55.

2. FERRŒNSIS.
carnation.

T. oblong, depressed; originally covered with a thick brown *epidermis*. When naked, of a whitish color rayed with red, and crossed again with minute concentric *striæ*. Usual breadth one inch and three quarters. *Tab.* 1. *fig.* 3.

3. INÆQUI• VALVIS. Gm. Lin. 3233. Lin. Tr. viji. 50. Mont. Test. Br. 75. id. Sup. 27.

\* T. with an oblong shell, one end contracted into the form of a beak, one valve flat; length half an inch, breadth one inch; nearly allied to the genus *Solen*.

Small ones found on the Kentish coast.

4. SIMILIS.

Mont, Test. Br. App. 167.

Sow. Br. Misc. 29. t. 75.

\* T. with an ovate compressed shell, both valves diagonally striated; five-tenths of an inch over the surface; beak not curved.

Sussex coast near Brighton.

ō. DONA-CINA. Gm. Lin. 3234. T. trifasciata. Br. Zool. iv Lin. Tr. viii. 50. t. 1. f. 7. 88. Mont. Test. Br. 58.

\* T. with an ovate shell, much compressed, smooth, the fore part very obtuse; length half an inch, breadth one inch.

6. LASKEYI.

Mont. Test. Br. Sup. 28.

\* T. with an ovate-oblong shell, smooth, purplish white, in one valve are two approximate

sub-bifid teeth; one in the other valve which locks between the two opposite; length half an inch, breadth three quarters of an inch.

Discovered by Mr. Laskey in the Frith of Forth.

Gm. Lin. 3239. Lin. Tr. viii. 50. T. læta. Mont. Test. Br. 7. PUNICEA.

\* T. with an oval flat equi-lateral shell, most densely striated transversely; length three quarters of an inch, breadth one inch and an half.

Found between Weymouth and Portland.

Gm. Lin. 3238. Lin. Tr. viii. 51. T. squalida. Mont. Test. Br. 56.

8. DEPRESSA.

\* T. with a shell of unequal sides, flat, most delicately striated transversely, thin, somewhat transparent; of a pale orange color; length four-tenths of an inch, breadth six-tenths.

Found near Poole, at Weymouth, and on the coasts of Cornwall and Devonshire.

Gm. Lin. 3239. Lin. Tr. viii. 52.

Mont. Test. Br. 61.

9. FABULA.

\* T. with an ovate compressed shell, inflected, somewhat rostrated at the fore part, one valve

smooth, the other in some measure striated, striæ reflected; length four-tenths of an inch; breadth six-tenths.

Found on the south-west coasts of Anglesey; Tenby, South Wales; and at Kingsbridge, Devonshire; also isle of Purbeck, Devonshire.

10. TENUIS.

Lin. Tr. viii. 52. Mont. Test. Br. 59.

T. planata. Br. Zool. iv. 87.

T. with a very flat delicate shell, marked with concentric lines of red; the space about the hinge brown. Breadth, two-thirds of an inch. Common. Tab. li. fig. 2.

II. STRIATA.

Gm. Lin. 3238. Lin. Tr. viii. 53. Mont. Test. Br. 60.

\* T. with a shell of unequal sides, rounded at each end, white with a rosy tinge, pellucid; length one inch; breadth five-eighths of an inch. This may be distinguished from *T. tenuis* by its regular transverse *striæ*, and strong lateral teeth.

Discovered by Mr. Bryer between Wey-mouth and Portland.

### \*\*\* Suborbicular.

Lin. Tr. viii. 53. t. 1. f. 8. Mont. Test. Br. 64

\* T. with a suborbicular shell, *striæ* transverse, most minute, faint; length one inch, breadth one inch six-eighths.

Coast of Dorsetshire.

Gm. Lin. 3240.

T. proficua Mont. Test. Br. 13. RETICU-Lin. Tr. viii. 54. t. 1. f. 9.

67.

\* T. with the shell of a lenticular form, compressed, reticulated; diameter one inch.

Found on the north shore, *Poole*, and at *Wey* mouth.

Lin. Tr. viii. 54. Mont. Test. Br. 68. t. 2. 14. RADULA.

\* T. with an orbicular shell, convex with numerous, transverse, concentric, sharp-edged striæ; diameter an inch and an half.

Found abundantly on the coasts of *Cornwall* and *Devonshire*; less frequently at *Llaugharne*, *Caermarthenshire*.

15. CRASSA. flat.

Venus crassa. Gm. Lin. 3288.

Lin. Tr. viii. 55. Mont. Test. Br. 65.

T. with very thick, broad, and depressed shells, marked with numerous concentric *striæ*. Breadth, an inch and three quarters; length, an inch and a quarter.

Has the habit of the *Venus borealis*; but the sides of this are unequal, one being more extended than the other. *Tab.* li. *fig.* 1.

16. LACTEA.

Gm. Lin. 3240. Lin. Tr. viji, 56. Mont. Test. Br. 70. t. 2. f. 4.

\* T. with an orbicular, gibbous, white, pellucid smooth shell; diameter three quarters of an inch. This is distinguished at once by a deep groove that runs from the beak by the side of the teeth in each valve:

Found on the coast of *Llyn* in *Caernar- vonshire*, and in various parts, but not common.

17. ROTUN-DATA: Lin. Tr. viii. 56.

Mont. Test. Br. 71. t. 2. f. 3.

\* T. with a shell rather convex, orbicular, having two teeth in each valve, one of them forked,

the other diverging; somewhat transparent, white with faint transverse strix; diameter one inch.

Coasts of Devenshire and Cornwall.

Lin. Tr. viii. 56.

Mont. Test. Br. 72.

18. FLEXU-

\* T. with a shell very convex or somewhat globular, very brittle, having a groove from the beak to the margin; diameter three-eighths of an inch.

Discovered by Mr. Montagu in Cornwall; found also on the south coast of Devonshire.

Gm. Lin. 3240. Lin. Tr. viii. 57. Mont. Test. Br. 73.

19. CARNA-

\* T. with an orbicular smooth shell, flesh colored or rosy; obliquely striated; striæ reflexed on one part; diameter about one inch.

Accidentally only thrown upon our shores.

Gm. Lin. 3240. Lin. Tr. viii. 57. Mont. Test. Br. 69.

20. BIMACU-LATA.

\* T. with an orbicular shell, tending to triangular; smooth, whitish with two blood-red spots at the beak; diameter about half an inch.

Found upon the Lancashire, Hampshire, and Dorsetshire coasts.

flesh-colored.

21. SOLIDU- T. solidula. Lin. Tr. viii. 58. Mont. Test. Br. 63.

List. Angl. tab. iv. fig. 25. T. carnaria. Br. Zool. iv. 88.

T. with a strong and rounded shell, generally of a bloom color within and without; externally marked with belts of deeper red. Breadth about seven-eighths of an inch. Tab. lii. fig. 2.

Sometimes found quite white, as fig. 2. A.

horny.

22. CORNEA. Lin. Syst. 1120. No. 72. Gm. Lin. 3241.

Lin. Tr. viii. 59. Cardium corneum. Mont. Test. Br. 86.

Faun. Suec. No. 2138.

List. Angl. App. tab. i. fig. 5.

T. with round shells very convex, marked with a transverse furrow; color brown. Size of a pea.

Inhabits ponds and fresh waters. Tab. lii. fig. 3.

23. LACUS-TRIS.

Gm. Lin. 3242. Lin. Tr. viii. 60. Cardium lacustre. Mont. Test. Br. 89.

\* T. with a rhomboidal shell, flattish, smooth; beak pointed, horn-colored; diameter three or four tenths of an inch. Inhabits fresh water.

Discovered by Mr. Swainson in a river near Bulstrode, and also by Mr. Montagu in Wiltshire and Devonshire.

Gm. Lin. 3242.
Lin. Tr. viii. 60.
T. rivalis. ib. iii. 44. t. 13.
f. 37. 38.

Cardium amnicum. Mont. 24. AMNICA. Test. Br. 86.

\* T. with a shell somewhat obliquely oval, sulcated transversely; length three-eighths of an inch; breadth half an inch.

Found in rivers in Wiltshire and Dorset-shire.

Gm, Lin. 3244.

Mont. Test. Br. Sup. 27.

25. POLY-GONA.

\* T. with a white shell transversely striated, orbicular; fore part angular, with two large distant teeth in one valve, and one large bifid tooth in the other; length half an inch, breadth somewhat more.

Found off Cramond island, Frith of Forth.

### GENUS VIII. CARDIUM. COCKLE.

Animal, a Tethys.

Shell nearly equilateral, equivalve.

TEETH two, near the beak: a larger (placed remote) on each side; each locking into the opposite.

1. MEDIUM.

Gm. Lin. 3246. Lin. Tr. viii. 61. Mont. Test. Br. 83.

\* C. with a shell somewhat heart-shaped, and rather angular; valves angular, furrowed, smooth; diameter one inch.

Found at Hartlepoole, Durham.

2. EXIGUUM.

Gm. Lin. 3255. Lin. Tr. viii. 61. Mont. Test. Br. 82.

\* C. with a shell somewhat heart-shaped, and rather angular; the grooves strongly striated transversely; diameter half an inch.

Sandwich and Falmouth harbour.

Lin. Syst. 1122. No. 78. Gm. Lin. 3247. Lin. Tr. viii. 62. Mont. Test. Br. 77. 3. ACULEA-TUM. aculeated.

C. with high ribs radiating from the hinge to the edges; each rib sulcated in the middle; and near the circumference beset with large and strong processes, hollowed. One side of the shell projects further than the other, and forms an angle. Color yellowish brown. As large as a fist; the marginal circumference ten inches and a half.

Found off the *Hebrides* and *Orknies*; [also on the *Devonshire* coast.

Tab. liii. fig. 1.

Lin. Tr. viii. 62.

Sow. Br. Misc. 65. t. 32.

4. SPINOSUM.

\* C. with a shell somewhat obliquely heart shaped, abrupt at one end; the larger ridges spiny.

Devonshire coast.

Lin. Syst. 1122. No. 79. Gm. Lin. 3247.

Faun. Suec. No. 2139. List. Angl. tab. v. fig. 33. Conch. tab. 324 Lin. Tr. viii. 63.

Mont. Test. Br. 78.

5. ECHINA-TUM. echinated.

C. smaller than the former, being little more than six inches in circumference; the color white;

the ribs echinated higher up; has only sixteen ribs, the former twenty-one; the shape rounder.

Found dead on many of our shores.

6. CILIARE. fringed.

Lin. Syst. 1122. No. 80. Gm. Lin. 3248.

Lin. Tr. viii. 64. Mont. Test. Br. 79.

C. with a very brittle and delicate shell; of a pure white; eighteen ribs rising into thinner spines. Of the size of a hazel nut. *Tab*. lii. fig. 2.

7. TUBERCU-LATUM. Gm. Lin. 3247. Lin. Tr. viii. 63. Mont. Test. Br. 78.

\* C. with a shell somewhat heart-shaped, the furrows marked with a ciliated line, with many bent spines.

Found at the mouth of the Ex, Devonshire, and on the Dorsetshire coast.

8. LÆVIGA-TUM. smooth. Lin. Syst. 1123. No. 88. Gm. Lin. 3251.

Lin. Tr. viii. 65.

Mont. Test. Br. 80.

C. of a sub-oval shape, somewhat depressed; of a deep brown color, with obsolete longitudinal *striæ*; and a few transversal, concealed

by a thin *epidermis*. Circumference six inches and an half. Common. *Tab*. liv. *fig*. 1.

Lin. Syst. 1124. No. 90. Gm. Lin. 3252. Faun. Suec. No. 2141. List.

Angl. tab. v. fig. 34.

Lin. Tr. viii. 65.

Mont. Test. Br. 76.

9. EDULE. edible.

C. with twenty-eight depressed ribs, transversely striated; one side more salient than the other.

Common on all sandy coasts, lodged a little beneath the sand; their place marked by a depressed spot. Delicious and wholesome food. *Tab.* liii. *fig.* 3.

Lin. Tr. viii. 66.

Mont. Test. Br. 83.

10. RUBRUM.

\* C. with a shell somewhat circular, convex; the primary hinge teeth faint, the lateral more discernible; size one-eighth of an inch.

Devonshire and Kentish coasts.

Lin. Tr. viii. 66.

Mont. Test. Br. 81.

11. NODO-SUM.

\* C. with a shell somewhat circular, compressed, with twenty-four obtuse tuberculated ridges; diameter three quarters of an inch.

Discovered at Falmouth by Mr. Montagu.

12. ARCUA-

Lin. Tr. viii. 67.

Mont. Test. Br. 85. t. 5. f. 2.

\* C. with an orbicular shell; the *striæ* transverse, arcuated.

Mr. *Montagu* discovered this elegant species in *Falmouth* harbour.

13. DISCORS.

T. pisiformis. Gm. Lin.

Lin. Tr. viii. 67. Mont. Test. Br. 84.

\* C. with a shell somewhat orbicular, very convex, the valves obliquely striated; size of a pea.

14. ELONGATUM.

Lin. Tr. viii. 67.

Mont. Test. Br. 82.

\* C. with a shell somewhat oval and angular, compressed, with twenty-one rounded ridges, lightly rugged; diameter a quarter of an inch. Salcombe bay, Devon.

15. MURICA-

Lin. Tr. viii. 68.

Mont. Test. Br. 85.

\* C. with a shell heart-shaped, opaque and white, with a muricated margin; minute.

Shepey island, Kent.

#### Mont. Test. Br. Sup. 30.

16. FASCIA-

\* C. with an orbicular shell, pellucid; with about twenty-seven smooth, glossy, flattened ribs; color rufous white, with a few brown stripes; length three quarters of an inch, breadth somewhat more.

On the Cornish and Devonshire coasts.

# GENUS IX. MACTRA. FLAT-SIDED COCKLE.

Animal, a Tethys.

Shell unequal-sided, equivalve.

Tooth, middle, complicated; with a little concavity on each side; the lateral teeth remote, mutually received into each other.

1. DEALBATA.

M. pellucida. Gm. Lin. Tr. viii. 68. t. 1. f. 10.

Mont. Test. Br. 95. t. 5.

f. 1.

\* M. with an ovate gaping shell, the middle hinge tooth complicated, with a lateral small tooth; length an inch and a quarter, breadth an inch and three quarters.

Found at Weymouth.

2. GLAUCA. Gm. Lin. 3260. Mont. Test. Br. 571. Lin. Tr. viii. 68.

\* M. with an ovate dull white shell, radiated with grey, most delicately striated transversely; the anterior end wrinkled; length three inches and an half, breadth four and an half.

Found only by Miss Pocock; Hale sands, Cornwall.

Lin. Tr. viii. 69.

Cardium edentula. Mont. Test. Br. Sup. 29. 3. RADIATA.

\* M. with a thin brittle shell, somewhat triangular, compressed, whitish, radiated, most delicately striated; diameter two inches.

Found at *Portsmouth* after a storm.

Lin. Syst. 1126. No. 99.
 Gm. Lin. 3258.
 Tellina radiata. Br. Zool.
 iv. 87.

Lin. Tr. viii. 69. Mont. Test. Br. 94.

4. STULTO-RUM. simpleton's.

M. with very convex shells of a faint ash-color, radiated with red, tinged within with a faint purple; breadth an inch and a half. *Tab.* lii. *fig.* 1.

Lin. Syst. 1126. No. 100. Gm. Lin. 3259. Faun. Suec. No. 2140. List. Angl. tab. iv. fig. 24. Lin. Tr. viii. 70. Mont. Test. Br. 92.

5. SOLIDA. strong.

M. with very strong shells; in a live state, smooth, white, glossy, and marked with a few transverse *striæ*. Tab. lv. fig. 2.

In dead shells, the *striæ* appear like high ribs. *Tab*. liv. *fig*. 3.

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- SUBTRUN- Lin. Tr. viii. 71. t. 1. f. 10. M. stultorum. Br. Zool. iv. CATA. Mont. Test. Br. 93. id. Sup. 92.
   37. t. 27. f. 1.
  - \* M. with a smooth, strong, triangular shell, beak more prominent than common. Tab. lv. fig. 1.
- 7. LISTERI. Gm. Lin. 3261. Venus borealis. Br. Zool. iv.

  Lin. Tr. viii. 71. 96.

  M. compressa. Mont. Test. List. Angl. t. 4, f. 23.

  Br. 96.

M. with thin shells much compressed, marked with slender concentric *striæ*. Length one inch and a half, breadth near two inches.

8. TENUIS. Lin. Tr. viii. 72. Mont. Test. Br. 572. id. Sup. t. 17. f. 7.

\* M. with a flat equilateral shell, somewhat triangular; the hinge-tooth in one valve forked, with the side teeth distant; diameter a quarter of an inch.

At Southampton and Weymouth.

Lin, Tr. viii. 72.

Mont. Test. Br. 99. t. 3. f. 5:

9. TRIANGU-LARIS.

\* M. with a somewhat triangular shell; one strong forked hinge-tooth in one valve, on the other a triangular depression between two small teeth; minute.

Inhabits the south coast of Devonshire.

Lin. Tr. viii. 72. ib. vi. Mont. Test. Br. 98. t. 3. t. 18. f. 9. 12. f. 7.

10. BOYSII.

\* M. with a smooth ovate shell; hinge-tooth strong, a little prominent; size of a horsebean.

Found in Salcombe and Biddeford bays; also in Kent.

Lin. Syst. 1126. No. 101. Gm. Lin. 3259. Faun. Suec. No. 2128.

List. Angl. tab. iv. fig. 19. Lin. Tr. viii. 73. Mont. Test. Br. 100. 11. LUTRA-RIA. large.

M. with an oblong thin shell; one side much extended, and gaping; for which reason Lin-naus once placed it among the Mya. Breadth five inches; length two and a half.

Inhabits the sea near the mouth of rivers;

and even sometimes within the mouth. Tab. lv. fig. 3.

12. HIANS.

Mya oblonga. Gm. Lin. 3221.

Lin. Tr. viii. 74.

Mont. Test. Br. 101.

\* M. with an oblong rugged shell, the anterior extremity gaping, and the margin having some degree of flexure; length two inches and two and a half, breadth four or five inches.

On the *Dorset*, *Cornwall*, and *Devonshire* coasts.

13. TRUN-

Mont. Test. Br. Sup. 34.

\* M. with a triangular shell, very strong, smoothish, sides flattened, truncated; length an inch and a half, breadth an inch and three quarters.

Frith of Forth.

14. CINEREA.

Mont. Test. Br. Sup. 35.

\* M. with a thin, subtriangular, truncated shell, of a cinereous color; back large and very prominent.

Weymouth.

Mont. Test. Br. Sup. 37.

15. MINUTIS= SIMA.

\* M. with a white, smoothish, triangular shell; back prominent; single large tooth in one valve, enters between two in the other. One of the most minute of bivalves.

#### GENUS X. DONAX. WEDGE-SHELL.

Animal, a Tethys.

Shell with the frontal margin very blunt. HINGE with two teeth on the middle, and sometimes one marginal, somewhat remote.

1. TRUNCU- Lin. Syst. 1127. No. 105. Conch. tab. 376. s. 217. LUS. Gm. Lin. 3263. yellow. Faun. Suec. No. 2142. List. Angl. tab. v. fig. 35.

Lin. Tr. vi. t. 16. f. 13-16. ib. viii. 74. Mont. Test. Br. 103.

D. with a glossy shell, of a whitish color tinged with dirty yellow, and marked lengthways with many elegant minute striæ; the inside purple. Breadth an inch and a tenth. Tab. lviii. fig. 1.

2. COMPLA-NATA.

Lin. Tr. viii. 75.

Mont. Test. Br. 106. t. 5. f. 4.

D. with an oblong shell, very smooth or glossy; edges perfectly entire; length fiveeighths of an inch, breadth an inch and a quarter.

Inhabits the coasts of Devon, Dorset, and Cornwall.

Lin. Syst. 1127. No. 107. Gm. Lin. 3263.

Lin. Tr. viii. 76. Mont. Test. Br. 104. 3. DENTICU-LATA. purple.

D. of a cuneiform shape; extremely blunt at one end, striated like D. trunculus, serrated at the edges; color within purple; transversely tinged with the same on the outside. Breadth a little superior to D. trunculus. Tab. lviii. fig. 2.

Lin. Tr. viii. 76.

Mont. Test. Br. 107. t. 5. f. 2

4. PLEBBIA.

\* D. with an ovate smooth shell; edges entire, hinge-teeth strong; length an inch and a half, breadth three quarters of an inch.

Weymouth.

Lin. Tr. viii. 77.

Mont. Test. Br. 573. id. 5. Sup. t. 17. f. 2.

5. CASTANEA.

\* D. with an ovate smooth shell, transverse worn wrinkles, with two hinge-teeth in each valve, one very large, the other small; length a quarter of an inch, breadth three-eighths.

Discovered by Mr. Montagu in St. Austle bay.

6. IRUS. cornish.

Lin. T. viii. 77.

Mont. Test. Br. 108. 573.

Borlase Cornwall, t. 28. f. 23.

Tellina cornubiensis. Br. Zool. iv. 89.

\* D. with an oval shell encompassed with upright membranaceous ridges; length half an inch, breadth three quarters.

7. RUBRA.

Mont. Test. Br. Sup. 38.

\* D. with a smooth wedge-shaped shell, reddish, abrupt at one end, beak obtuse; very minute.

Amongst coralline in deep water, very rare.

#### GENUS XI. VENUS. VENUS-SHELL.

Animal, a Tethys.

HINGE with three teeth near to each other; one placed longitudinally, and bent outwards.

## \* Fore-part spiny.

Lin. Tr. viii. 78.

Mont. Test. Br. 577. id. Sup. t. 17. f. 1.

I. SPINI-FERA.

\* V. with a somewhat triangular shell; ridges numerous; anterior edges spinous.

Found in sand from Salcombe bay, rare.

\*\*\* Without spines. (A.) Somewhat heart-shaped.

Gm. Lin. 3269. Lin. Tr. viii. 78. Mont. Test. Br. 112. 574. V. erycina. Br. Zool. iv. 94.

2. VERRU-COSA.

V. with a very thick shell, marked with highridged ribs transversely; undulated longitudinally.

Circumference about five or six inches. Tab. lvii. f. 1.

3. LACTEA. Lin. Tr. viii. 79.

Mont. Test. Br. Sup. 46.

\* V. with a somewhat heart-shaped compressed shell; ridges concentric, strong, obtuse; blunt at one end; diameter an inch and a half.

Western coast.

4. CASINA. Gm. Lin. 3269. Mont. Test. Br. Sup. Lin. Tr. viii. 79. 1. 2. f. 1. V. erycina. Br. Zool. iv. 94.

\* V. shell with transverse reclining bent edged ridges; hind margin crenulated; strong; white, with stripes of reddish brown from the beak to the margin; circumference about five or six inches. Tab. lvii. fig. 2.

Found in the *Menai*, between *Caernarvon-shire* and *Anglesey*.

5. LAMINOSA. V. cancellata. Gm. Lin. 3270. Mont. Test. Br. Sup. 38

\* V. with an ovate shell; ridges numerous, concentric, sub-membranaceous, nearly erect; with an heart-shaped depression, of the color of the shell, near the hinge; length one inch, breadth an inch and a quarter.

Isle of May, in the Frith of Forth.

V. Paphia β. Gm. Lin. · Lin. Tr. viii. 80. 6. FASCIATA. 3268.? Mont. Test. Br. 110.

\* V. with a somewhat heart-shaped shell; ribs transverse, broad, depressed; diameter scarcely one inch; canaliculated behind the depression; an inch and an half in diameter; strong; white, streaked, with brownish angular lines.

Found on the western shores and on the coasts of Wales and of Caithness.

Lin. Tr. viii. 81. Mont. Test. Br. 121, t. 3. f. 3. 7. MINIMA.

\* V. with a somewhat heart-shaped shell, rather compressed, glossy, transversely striated, with two red spots at the margin; diameter a quarter of an inch.

Falmouth.

Lin. Tr. viii. \$1. t. 2. f. 2. Mont. Test. Br. 131. 8. SULCATA.

\* V. with a somewhat triangular shell; smooth, faintly wrinkled; sinus oblong-oval, the inner edge minutely toothed; diameter about an inch.

North of Scotland.

9. SCOTICA. Lin. Tr. viii. 81. t. 2. f. 3. Mont. Test. Br. Sup. 44.

\* V. with a somewhat heart-shaped flat shell; furrows transverse, parallel, regular, edge smooth; length five-tenths of an inch, breadth eight-tenths.

Discovered by Mr. M'Leay on the Caithness-shire coast.

10. SUBCOR- V. cancellata. Gm. Lin. 3270? Mont. Test. Br. 121. t. 3. DATA. Lin. Tr. viii. 82. f. 1.

\* V. with a somewhat heart-shaped shell, with strong longitudinal ribbed *striæ*, and distant transverse ridges; edges faintly crenated; diameter a quarter of an inch.

Weymouth.

11. DYSERA. Gm. Lin. 3268. Mont. Test. Br. Sup. 42.

\* V. with a subcordate shell; ridges distant, transverse, reflected; edges crenulated; beak small; diameter not quite three quarters of an inch.

List. Conch. tab. 282. Gm. Lin. 3270.

Lin. Tr. viii. 82.

V. striatula. Mont. Test. Br. 113. V. rugosa. Br. Zool. iv. 95. 12. GALLINA. wrinkled.

V. with thick shells, marked with rugose concentric striæ; length an inch, breadth an inch and a quarter.

A variety, with  $stri\alpha$  less elevated, and marked with yellowish ziggag lines. List. Conch. 282. Tab. lix. fig. 2.

Lin. Tr. viii. 83.

Mont. Test. Br. 577. id. Sup. t. 17. f. 3.

13. TRIANGU.
LARIS.

\* V. with a somewhat triangular shell; hinge strong; one valve has three teeth, the other two, and a crescent-shaped, lateral thin plate; diameter half an inch.

Found by Mr. Montagu on the coast of Devonshire; very scarce.

Lin. Syst. 1131. No. 123.

Lin. Tr. viii. 83.

Mont. Test. Br. 114.

V. mercenaria. Br. Zool. iv. 94.

DICA. iceland.

Gm. Lin. 3271.

Faun: Suec. No. 2144. List.

Angl. tab. iv. fig. 22.

Conch. tab. 272.

V. with a strong, thick, weighty shell, covered with a brown *epidermis*; pure white within;

slightly striated transversely. Circumference above eleven inches.

[Not uncommon on many parts of our coast, but seldom taken alive except by deep dredging. Tab. lvi. Ed.

15. CHIONE.

Gm. Lin. 3272. Lin. Tr. viii. 84. Mont. Test. Br. 115.

\* V. with a shell somewhat wrinkled transversely; of a bright chesnut color; hind hingetooth lance-shaped; length three inches, breadth three inches and three quarters.

Common on the Cornish coast, also on the Dorsetshire coast, in Cheshire, and on the south west coast of Anglesey. Tab. liv. fig. 2.

oval.

16. OVATA. Lin. Tr. viii. 85. t. 2. f. 4. Mont. Test. Br. 120.

V. with ovated shells, striated elegantly from hinge to margin, and slightly striated transversely. Size of a horse-bean. Tab. lix. fig. 3.

Gm. Lin. 3270.

Mont. Test. Br. Sup. 48.

17. GUINEEN-SIS.

\* V. with a subcordate cinereous shell, white within; ridges numerous, close, regular, sharp; margin entire.

Abbs Head in the Frith of Forth.

Lin. Syst. 1133. No. 132. Mont. Test. Br. 123. t. 3. 18. Deflo-Gm. Lin. 3274. f. 4. RATA. Lin. Tr. viii. 85.

V. with thin oval shells, striated lengthways, semipellucid; rayed with purple and white, both within and without. Size near an inch and a half in breadth. Tab. lx. fig. 3.

Gm. Lin. 3277. Lin. Tr. viii. 85. Mont. Test. Br. 122.

9. GRANU= LATA.

\* V. with a somewhat orbicular shell; ridges net-like or decussated; the edge crenulated; a blackish heart-shaped depression near the hinge; diameter one inch.

Found on the coast of Llyn, and at Falmouth.

### (B.) Somewhat orbicular.

20. REFLEXA.

Mont. Test. Br. Sup. 40. 168.

\* V. with a suborbicular shell; ridges numerous, thin, reflected; with an heart-shaped depression of a different color from the shell, near the hinge.

Found on the coast of south *Devon*, and in *Scotland*.

21. TIGERI- Gm. Lin. 3283. Mont. Test. Br. 119. t. 4. NA. Lin. Tr. viii. 86. t. 2. f. 5. f. 1.

\* V. with an orbicular shell, compressed; ridges decussated, with an oval depression near the hinge; diameter scarcely one inch.

Found on the *Dorsetshire* coast.

22. ORBICU-LATA. Mont. Test. Br. Sup. 42.

\* V. with a white orbicular shell, depressed, cancellated; beak very small, with a minute heart-shaped depression; lateral tooth much more remote than in the preceding, which this species in some measure resembles; diameter five-eighths of an inch.

Near Dunbar.

Lin. Tr. viii. 86.

Mont. Test. Br. 118.

23. UNDATA. waved.

V. with thin convex orbiculated shells, of a white color tinged with yellow, and marked with thin concentric striæ; waved at the edges. Size of a hazel nut. Tab. lviii. fig. 3.

Gm. Lin. 3284.

Lin. Syst. 1134. No. 142. Lin. Tr. viii. 87. t. 3. f. 1. Mont. Test. Br. 116.

24. EXOLETA. antiquated.

V. with orbicular shells, with numerous transversal striæ; white, glossy.

Diameter about two inches. Tab. lix. fig. 1. Variety of the same, marked strongly with numerous striæ, and longitudinally with a few short yellowish lines. Vide List. Conch. tab. 292, 293. Tab. lvii. fig. 3.

Common.

Mont. Test. Br. Sup. 43. t. 26. f. 1. 1. 1.

25. COM-PRESSA.

\* V. with a strong, suborbicular, compressed shell, irregularly wrinkled, white; beak prominent, oblique, with two large hinge-teeth in each valve; diameter from half to one inch.

Dunhar.

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# C. Oval; somewhat angular above the cartilage.

26. DECUS- Lin. Syst. 1135. No. 149. Lin. Tr. viii. 88. t. 2. f. 6.
SATA. Gm. Lin. 3294. Mont. Test. Br. 124.
Faun. Suec. No. 2146. List. V. literata. Br. Zool. iv. 96.
Conch. tab. 400. fig. 239.

\* V. with a strong ovate shell; the fore part somewhat angular, marked in a net-like manner, with frequent crenulated *striæ*; length an inch and three quarters, breadth two inches and a half. *Tab.* lx. *fig.* 2.

27. PULLAS. Lin. Tr. viii. 88. t. 2. f. 7. Mont. Test. Br. 125.

\* V. with an oblong ovate shell; the fore part angulated; striæ most delicate, decussated; of a pale brown or dull white color; very nearly allied to the preceding, but may be distinguished to a certainty by three hinge-teeth, like those of a comb, in each valve; length an inch and three-eighths, breadth two inches.

Inhabits the sea; common.

#### Mont. Test. Br. Sup. 48.

28. SUBSTRI-

\* V. with a shell transversely ovate, subpellucid, concentrically wrinkled, wrought with faint undulated, longitudinal striæ; margin plain; length half an inch, breadth somewhat more.

Frith of Forth; rare.

Lin. Tr. viii. 89.

Mont. Test. Br. 127. t. 3. f. 6.

29. PERFO-RANS.

\* V. with a shell somewhat rhomboidal, the fore part abrupt, wrinkled; the hind part striated transversely; hinge with three teeth, two long ones bent, the third small; length three eighths of an inch, breadth five-eighths.

Found by Mr. *Montagu* buried in limestone at *Plymouth*.

#### Mont. Test. Br. Sup. 49.

30. SUE-RHOM-BOIDEA.

\* V. with a subrhomboidal shell, rounded at one end, abrupt at the other; with irregularly concentric wrinkles, decussated by fine longitudinal striæ.

Frith of Forth.

31. VIRGI-NEA. Gm. Lin. 3294. Mont. Test. Br. 129. Lin. Tr. viii. 89. t. 2. V. rhomboides. Br. Zool. f. 8. iv. 97.

V. with depressed rhomboidal shells, marked with concentric and very neat *striæ*, of a pale brown color variegated. Length three quarters of an inch, breadth an inch and three quarters. *Tab.* lviii. *fig.* 5.

32. DANMO-NEA. Mont. Test. Br. Sup. 45.

\* V. with a thick shell, transversely ovate, sub-compressed, with many regular concentric, smooth ridges; margin crenated, an effectual distinction between it and V. scotica, which it otherwise resembles; length one inch, breadth an inch and a quarter.

Devonshire.

33. AUREA. Gm. Lin. 3288. Tellina rugosa. Br. Zool.
Lin. Tr. viii. 90. t. 2. f. 9. 4to. iv. 75.

Mont. Test. Br. 120.

\* V. with a somewhat heart-shaped shell, polished, delicately ridged, striated lengthways; groove indistinct. *Tab.* lx. *fig.* 1.

Lin. Tr. viii. 90.

34. SINUOSA. indented.

V. with thin convex shells, with a very deep obtuse *sinus*, or bending on the front. Size of the figure.

Weymouth. From the PORTLAND cabinet, Tab. lviii. fig. 4.

#### GENUS XII. CHAMA.

Animal, a *Tethys*.

Shell strong.

Hinge rugged, gibbous.

Teeth obliquely inserted into opposite valves.

1. COR. Gm. Lin. 3299. Lin. Tr. viii. 90. Mont. Test. Br. 134.

\* C. with a smooth and somewhat globose shell; beaks recurved and convoluted like a ram's horn.

Scotland.

#### GENUS XIII. ARCA. ARK-SHELL.

Animal, a Tethys.

Shell equivalve.

Teeth of the hinge numerous, inserted between each other.

\* With the edge entire; beaks inflected.

Lin. Syst. 1140. No. 169. Gm. Lin. 3306. Borlase's Nat. Hist. Cornw. tab. xxviii. fig. 15, 16. List. Conch. tab. 368.

Mytilus. Matthiol. apud Dioscor. lib. ii. c. 5. p. 301. Lin. Tr. viii. 91. Mont. Test. Br. 139. t. 4. f. 3. A. tortuosa. Br. Zool. iv. 97.

A. with a rhomboid shell, deeply striated from the apex to the edges; breadth half an inch.

Inhabits Cornwall; found also near Weymouth; extremely rare.

Mont. Test. Br. Sup. 51.

2. FUSCA,

1. NOÆ. distorted.

\* A. with a finely reticulated shell, of an uniform purplish brown color, destitute of any colored bands; length three quarters of an inch, breadth an inch and a half.

Found in Devonshire, Cornwall, and Scotland.

3. MINUTA. Gm. Lin. 3309. Lin. Tr. viii. 92. Mont. Test. Br. 140.

\* A. with an oblong-oval shell, one end rounded, the other somewhat abruptly angular; length three-eighths of an inch, breadth half an inch.

Not uncommon at Sandwich.

\*\* Edge crenated or notched; beaks recurvated.

4. LACTEA. Lin. Syst. 1140. No. 173. Mont. Test. Br. 138.

Gm. Lin. 3309. A. barbata. Br. Zool. iv. 98.

Lin. Tr. viii. 92.

A. with oblong shells faintly striated; beset with *Byssus* so as to appear bearded. In *England* of the size of a horse-bean, the foreign specimens much larger. *Tab.* lxi. fig. 2.

\*\*\* Edge crenated; beaks inflected.

5. GLYCY-MERIS. Gm. Lin. 3313. Lin. Tr. viii. 93. t. 3. f. 3.

\* A. with a somewhat circular shell, gibbous, rather striated; beaks incurvated; margin cre-

nated; teeth of the hinge about ten, quite

Found on the coast of Cornwall, and on the shores of Guernsey.

Lin. Syst. 1143. No. 182. Mont. Test. Br. 136. 6. PILOSA-Gm. Lin. 3314. A. Glycymeris. Br. Zool. iv. orbicular.

List. Conch. tab. 247. fig. 82. 98.

Lin. Tr. viii. 94. t. 3. f. 4.

A. with thick orbicular shells, marked with concentric striæ; white zigzagged with ferruginous; edges crenulated; hinge in the middle, and hinge teeth oblique. Diameter about two inches. Tab. lxi. fig. 1.

Lin. Syst. 1141. No. 184. Lin. Tr. viii. 95. 7. NUCLEUS. 6m. Lin. 3314. Mont. Test. Br. 141. silvery.

A. with unequally triangular shells; smooth, pure white without, silvery within; margin finely crenated. Size of a pea.

Gm. Lin. 3308. Mont. Test. Br. Sup. 55. t. 27. f. 7. 8. ROSTRATA.

\* A. with a somewhat ovate convex shell transversely striated; the hind part rounded, the fore part produced into a bent lip.

St. Abb's head, Frith of Forth.

9. TENUIS.

Mont. Test. Br. Sup. 56. t. 29. f. 1.

\* A. with a smooth subcordate shell, white with an olivaceous *epidermis*; beaks near one end slightly inflected; greatest diameter a quarter of an inch.

Found on the shore near Dunbar.

#### GENUS XIV. PECTEN. SCALLOP.

Animal, a Tethys.

VALVES generally unequal rayed, with auricles near the hinge.

HINGE toothless, having a small ovated hollow.

#### \* One shell flattish.

Lin. Syst. 1144. No. 185. Gm. Lin. 3315. Faun. Suec. No. 2148. List. Angl. tab. v. fig. 29. Ostrea maxima. Lin. Tr. 1. MAXIMUS. viii. 96. great.

Mont. Test. Br. 143.

P. with fourteen rays, very prominent and broad; striated lengthways above and below; ears equal. Grows to a large size. *Tab*. lxii.

Found in beds by themselves; are dredged up, and pickled and barrelled for sale.

The antients say, that they have the power of removing themselves from place to place by vast springs or leaps.\* This shell was called by the  $Greeks \ ^{K\tau \epsilon \iota \varsigma}$ , by the  $Latins \ Pecten$ , and was used by both as a food; and when dressed

<sup>\*</sup> Arist. Hist. An. lib. iv. c. 4.

with pepper and cummins, was taken medicinally.\*\*

The elegant figure of the crouching *Venus*, in the *Maffei* collection, is placed sitting in a shell of this kind. The sculptor probably was taught by the mythology of his time, that the goddess arose from the sea in a scallop. This perhaps may have been the *concha venerea* of *Pliny*, so styled from this circumstance.

Another shell  $(Cypr\alpha a)$  has the same name, for a different reason.

The scallop is commonly worn by pilgrims on their hat, or the cape of their coat, as a mark that they had crossed the sea in their way to the *Holy Land*, or to some distant object of devotion.

2. JACOBÆUS. lesser.

Lin. Syst. 1144. No. 186. Gm. Lin. 3316. List. Conch. tab. 165. fig. 2. Lin. Tr. viii. 97. Mont. Test. Br. 144.

P. with fifteen broad rays, rounded on the flat side, and most finely transversely striated; angulated on the convex, and striated lengthways; ears nearly equal; concave and smooth on the upper side.

A rare species in *Great Britain*. *Tab.* lxiii. *fig.* 1.

<sup>\*</sup> Athenaus, lib. iii. p. 90.

#### \*\* Both shells convex.

Pecten tenuis, subrufus, maculosus, circiter 20 striis majoribus, at lævibus, donatus. List. Angl. p. 185. tab. v. fig. 30.

Gm. Lin. 3325.

Lin. Tr. viii. 98. ib. vi. t. 18. 3. OPERCUf. 7, 8.

Mont. Test. Br. 145.

O. subrufus. Br. Zool. iv.

100.

P. with twenty narrow rays, finely striated; ears nearly equal, and also striated; the shell thin and generally of a pale red color.

A species seldom exceeding two inches and a quarter in length; the breadth nearly the same. *Tab.* lxiii. *fig.* 2.

Lin. Syst. 1146. No. 109. Gm. Lin. 3324. List. Conch. tab. 178. fig. 15.

Lin. Tr. viii. 97. Mont. Test. Br. 146. 4. VARIUS. variegated.

P. with about thirty echinated imbricated rays; shells almost equally convex; one ear vastly larger than the other. General length two inches and a half; breadth a little less. Color, a sordid red mixed with white.

Often found in oyster-beds, and dredged up with them. *Tab.* lxiv. *fig.* 1.

5. LINEATUS.

Lin. Tr. viii. 99.

Mont. Test. Br. 147.

\* P. with a shell of unequal valves, and twenty rays; rough lengthways with points, the lower valve more convex.

Found at Weymouth, in Cornwall, and Devonshire.

6. SINUOSUS. Peeten minimus angustior inwrithed. equalis ferè et asper, &c.

equalis ferè et asper, &c. List. Angl. p. 186. tal. v. fig. 31. Gm. Lin. 3319. *Lin. Tr.* viii. 99.

P. distortus. Mont. Test. Br. 148.

P. pusio. Br. Zool. iv. 101.

P. with above forty small rays; with unequal ears; the surface always irregularly waved or deformed, as if by some accident; but this appearance regularly maintained. Length about two inches. Color commonly of a brilliant red. *Tab.* lxiv. fig. 2.

TUS.
worn.

*Lin. Tr.* viii. 100.

Mont. Test. Br. 149.

P. with one large striated ear, with smooth equal shells; eight obsolete rays; of a dark purple color. A small species three quarters of an inch long. *Tab.* lxiv. *fig.* 3.

Lin. Tr. viii. 100. t. 3. f. 5. Mont. Test. Br. 150. t. 4. f. 4. 8. LEVIS. smooth.

P. with unequal ribbed ears; the rest of the shell entirely smooth. Very small.

Anglesey; [also Falmouth and Salcombe bay.

Lin. Syst. 1146. No. 201.? Mont. Test. Br. 151. id. 9. GLABER. Gm. Lin. 3334. Sup. 59. t. 28. f. 6. furrowed. Lin. Tr. viii, 101.

P. with a very thin shell; fifteen faint rays; equal ears. The inner side of the shells marked with rays, divided by a single *sulcus*.

Anglesey. A scarce species. Small.

Gm. Lin. 3332. Pecten fragilis. Mont. Test. 10. FRAGILIS.

Br. Sup. 62.

\* P. with a white, fragile, subovate shell, of equal valves, but unequal sides, with twenty-five imbricated rays; margin entire; auricles pointed; length three quarters of an inch; breadth half an inch.

Taken by the trawl on the coast of Devon.

11. SUBAU-RICULATUS. Pecten subauriculatus. Mont. Test. Br. Sup. 63. t. 29. f. 2.

\* P. with an ovate, oblong, white pellucid shell, strice numerous, longitudinal, of equal valves and equal sides, with small auricles; the margin slightly arcuated; length a quarter of an inch, breadth an eighth of an inch.

Taken with the last, in deep water.

12. SIMILIS.

Mem. Wern. Soc. 387. t. 8. f. 8.

\* P. so named from its resemblance to P. lævis; a thin semitransparent shell, with unequal ears of a compressed globose form, perfectly smooth and beautifully clouded with brown. N. Britain.

### GENUS XV. OSTREA. OYSTER.

Animal, a Tethys.

Shell inequivalve, rough with imbricated scales.

Lin. Syst. 1148. No. 211. List. Angl. tab. iv. fig. 26.

Gm. Lin. 3334. Lin. Tr. viii. 101.

Faun. Suec. No. 2149. Mont. Test. Br. 151.

O. commonly of an orbicular form, and very rugged. A description of so well known a shell is needless. Varies in size in different places. Figured with an *Anomia* (A.) on it. *Tab.* lxv. *fig.* 2.

Britain has been noted for oysters from the time of Juvenal,\* who satyrizing an epicure, says,

Circæis nata forent, an Lucrinum ad Saxum, Rutupinove edita fundo, Ostrea, callebat primo deprendere morsu.

He, whether Circe's rock his oysters bore, Or Lucrine lake, or distant Richborough's shore, Knew at first taste.

The luxurious *Romans* were very fond of this fish, and had their *layers* or stews for oysters,

\* Satyr. iv. V. 140.

as we have at present; of which Sergius Orata\* was the inventor, as early as the time of L. Crassus the orator. He did not do this for the sake of indulging his appetite, but through avarice, and made great profits from them. Orata got great credit for his Lucrine oysters; for, says Pliny, the British were not then known.

The antients eat them raw, and sometimes roasted. They had also a custom of stewing them with mallows and docks, or with fish, and esteemed them very nourishing.

Britain still keeps its superiority in oysters over other countries. Most of our coasts produce them naturally, and in such places they are taken by dredging, and are become an article of commerce, both raw and pickled. The very shells, calcined, become an useful medicine as an absorbent; and in common with those of other species, prove an excellent manure.

Stews or *layers* of oysters are formed in places, which nature never allotted as habitations for them. Those near *Colchester* have been long famous; at present there are others, which at lest rival the former, near the mouth of the *Thames*. The *oysters*, or their spats, are

<sup>\*</sup> Plin. Nat. Hist. lib. ix. c. 54. † Athenœus, lib. iii. p. 92.

brought to convenient places, where they improve in taste and size. It is an error to suppose, that the fine green observed in oysters taken from artificial beds, is owing to copperas; it being notorious how destructive the substance or the solution of it is to all fish. I cannot give a better account of the cause, or of the whole treatment of oysters, than what is preserved in the learned Bishop Sprat's History of the Royal Society, from p. 307 to 309.

'In the month of May the oysters cast their spaun, (which the dredgers call their spats;) it is like to a drop of candle, and about the bigness of a halfpenny.

'The *spat* cleaves to stones, old oyster-'shells, pieces of wood, and such-like things, 'at the bottom of the sea, which they call 'cultch.

"Tis probably conjectured, that the *spat* in twenty-four hours begins to have a shell.

'In the month of May, the dredgers (by the law of the Admiralty court) have liberty to catch all manner of oysters, of what size soever.

'When they have taken them, with a knife they gently raise the small brood from the cultch, and then they throw the cultch in again, to preserve the ground for the future,

- " unless they be so newly spat, that they cannot
- <sup>6</sup> be safely severed from the cultch; in that
- <sup>6</sup> case they are permitted to take the stone or
- 'shell, &c. that the spat is upon, one shell
- ' having many times twenty spats.
- 'After the month of May, it is felony to carry away the cultch, and punishable to take
- any other oysters, unless it be those of size,
- ' (that is to say) about the bigness of an half-
- ' crown piece, or when the two shells being
- <sup>c</sup> shut, a fair shilling will rattle between them.
- 'The places where these oysters are chiefly
- ' catcht, are called the Pont-Burnham, Mal-
- ' den, and Colne waters; the latter taking its
- $^{\circ}$  name from the river of Colne, which passeth
- ' by Colne-Chester, gives the name to that
- ' town, and runs into a creek of the sea, at a
- ' place called the Hythe, being the suburbs of
- the town.
- 'This brood and other oysters they carry to creeks of the sea, at Brickel-Sea, Mersey,
- Langno, Fingrego, Wivenho, Tolesbury, and
- Saltcoase, and there throw them into the
- ' channel, which they call their beds or layers,
- "where they grow and fatten, and in two or
- ' three years the smallest brood will be oysters
- ' of the size aforesaid.
  - ' Those oysters which they would have green,

- ' they put into pits about three feet deep in the
- ' salt-marshes, which are overflowed only at
- ' spring-tides, to which they have sluces, and
- ' let out the sault-water until it is about a foot
- ' and half deep.
- 'These pits, from some quality in the soil
- ' co-operating with the heat of the sun, will
- become green, and communicate their colour
- ' to the oysters that are put into them in four
- for five days, though they commonly let them
- continue there six weeks or two months, in
- which time they will be of a dark green.
- 'To prove that the sun operates in the greening, Tolesbury pits will green only in
- summer; but that the earth hath the greater
- 'power, Brickel-Sea pits green both winter
- ' and summer: and for a further proof, a pit
- ' within a foot of a greening-pit will not green;
- and those that did green very well, will in
- ' time lose their quality.
- 'The oysters, when the tide comes in, lie
- ' with their hollow shell downwards, and when
- ' it goes out, they turn on the other side; they
- remove not from their place, unless in cold
- ' weather, to cover themselves in the ouse.
- 'The reason of the scarcity of oysters, and
- consequently of their dearness, is, because
- they are of late years bought up by the Dutch.

'There are great penalties, by the Admiralty court, laid upon those that fish out of those grounds which the court appoints, or that destroy the *cultch*, or that take any oysters that are not of size, or that do not tread under their feet, or throw upon the shore, a fish which they call a *Five-finger*,\* resembling a spur-rowel, because that fish gets into the oysters when they gape, and sucks them out.

'The reason why such a penalty is set upon any that shall destroy the *cultch*, is, because they find that if that be taken away, the ouse will increase, and the muscles and cockles will breed there, and destroy the oysters, they having not whereon to stick their *spat*.

'having not whereon to stick their spat.
'The oysters are sick after they have spat;
but in June and July they begin to mend, and
in August they are perfectly well: the male
oyster is black-sick, having a black substance
in the fin; the female white-sick, (as they
term it) having a milky substance in the fin.
They are salt in the pits, salter in the layers,
but salter at sea.'

To this I beg leave to join a sort of present state of this article, borrowed from the 84th

<sup>\*</sup> Asterias glacialis, the common Sea Star.

page of the History of *Rochester*, in 12mo. published in 1776.

' Great part of the inhabitants of Stroud are ' supported by the fisheries, of which the oyster is most considerable. This is conducted by ' a company of free dredgers, established by ' prescription, but subject to the authority and ' government of the mayor and citizens of Ro-' chester. In 1729 an act of parliament was ' obtained, for the better management of this ' fishery, and for confirming the jurisdiction of ' the said mayor and citizens, and free dredgers. 'The mayor holds a court of admiralty every ' year, to make such regulations as shall be ' necessary for the well conducting this valu-' able branch of fishery. Seven years appren-' ticeship entitles a person to the freedom of ' this company. All persons catching oysters, ' not members of the fishery, are liable to a ' penalty. The company frequently buy brood ' or spat from other parts, which they lay in ' this river, where they soon grow to maturity. Great quantities of these oysters are sent to ' London; to Holland, Westphalia, and the ad-

' jacent countries.'

### GENUS XVI. ANOMIA. ANOMIA.

Shell inequivalve.

VALVE one, perforated near the hinge; affixed by that perforation to some other body.

 1. EPHIP Lin. Syst. 1150. No. 218.
 Lin. Tr. viii. 102.

 PIUM.
 Gm. Lin. 3340.
 Mont. Test. Br. 155.

 List. Conch. tab. 204. fig. 38.

A. with the habit of an oyster; the one side convex, the other flat; perforated, adherent to other bodies, often to oyster-shells, by a strong tendinous ligature; color of inside perlaceous. Size near two inches diameter.

Tab. lxv. fig. 1. fig. 2. A. shews the exterior side of the shell; and the interior of the upper valve adhering to an oyster.

2. SQUA-MULA. small.

Lin. Syst. 1151. No. 221.

Mont. Test. Br. 156. ib.
561.
Lin. Tr. viii. 102.

A. with shells resembling the scales of fish; very delicate and silvery; much flatted; perforated; very small.

Adheres to oysters, crabs, and lobsters, and shells.

Gm. Lin. 3346. Lin. Tr. viii. 103. Mont. Test. Br. 157. t. 4.

3. ACULEA-TA.

\* A. with a somewhat orbicular spiry shell; beak smooth, bending downwards; diameter three-eighths of an inch.

Found in Devonshire, Cornwall, and Red-wharf bay Anglesey.

Gm. Lin. 3346. Lin. Tr. viii. 103. Mont. Test. Br. 153. 157. t. 4. f. 6.

4. UNDU-LATA.

\* A., shell with a crenated margin; the evener valve very thin and smooth, having a large oval perforation; the convex valve has longitudinal waved *striæ*, transversely decussated by others which are curved.

In the sea, attached to shells.

Lin. Tr. viii. 104. t. 3. f. 6. Mont. Test. Br. Sup. 64.

5. CYMBI-FORMIS.

\* A. with an oblong shell, rough, somewhat striated; the beak incurvated; flatter valve perforated.

Discovered by Mr. M'Leay on the coast of Caithness-shire.

The fossil species of the *Anomia* genus are uncommonly numerous in this island, in our chalk-pits and limestone-quarries; but are foreign to the work in hand. The reader who wishes to be acquainted with their appearance, may satisfy himself, by consulting *Lister's* History of Shells, appendix to the 3d book, tab. 447, &c. and *Hist. an. Angl.* tab. viii. and ix. *Plot's* Hist. *Oxfordshire*, tab. iii. and his History of *Staffordshire*, tab. xi.

# GENUS XVII. MYTILUS. MUSSEL.

Animal, allied to an Ascidia.

Shell often affixed to some substance by a beard.

HINGE without a tooth, marked by a longitudinal hollow line, sometimes crenulated.

Gm. Lin. 3350. Lin. Tr. viii. 104. Mont. Test. Br. 166.

1. CRISTA GALLI.

\* M. with a plaited spinous shell, marked near the margin with a series of protruding points. Found adhering to bottoms of ships.

Lin. Syst. 1156. No. 249. Gm. Lin. 3352. List. Angl. tab. iv. fig. 21. Lin. Tr viii. 105. Mont. Test. Br. 164.

 RUGOSUS. rugged.

M. with a brittle shell, very rugged, and in shape most irregular; usually oblong, and rounded at the ends. Length nearly an inch. Color whitish.

Always found lodged in limestone. The outside generally appears honey-combed; but the apertures are too small for the shell to pass

through, without breaking into the cell they are lodged in. Multitudes are found in the same stone: but each has a separate apartment, with a different external spiracle. *Tab.* lxvi. *fig.* 1.

3. EDULIS. edible.

Lin. Syst. 1157. No. 253. Gm. Lin. 3353. Faun. Succ. No. 2156.

List. Angl. tab. iv. fig. 28. Lin. Tr. viii. 105. Mont. Test. Br. 159.

M. with a strong shell, slightly incurvated on one side: angulated on the other. The end near the hinge pointed; the other rounded. When the *epidermis* is taken off, is of a deep blue color. *Tub.* lxvi. fig. 2.

Abundance of small pearls, called *seed-pearls*, were, till of late, procured from this species of mussel for medical purposes; but I believe they are now disused, since crabs-claws and the like have been discovered to be as efficacious, and a much cheaper absorbent.

Found in immense beds, both in deep water and above low-water mark. A rich food, but noxious to many constitutions. Affect with swellings, blotches, &c. falsely attributed to the pea-crab. The remedy oil, or salt and water.

Ne fraudentur gloriâ sua littora. I must, in justice to Lancashire, add, that the finest mussels are those called Hambleton Hookers, from

a village in that county. They are taken out of the sea, and placed in the river *Weir*, within reach of the tide, where they grow very fat and delicious.

Lin. Tr. viii. 106. t. 3. f. 7. Mont. Test. Br. 160.

4. INCUR-VATUS. crooked.

M. very crooked on the side, near the end; then greatly dilated, and covered with a thick rough *epidermis*. Within has a violet tinge.

Found on the coast of Anglesey, near Priest-holme; usually an inch and an half long. Tab. lxvii. fig. 1.

Lin. Tr. viii. 107. Mont. Test. Br. 160.

5. PELLUCI-DUS. pollucid.

M. with a delicate transparent shell, most elegantly rayed lengthways, with purple and blue; like the former in shape, but more oval. Commonly shorter than two inches.

Anglesey. Found sometimes in oyster-bods; sometimes in trawling over slutchy bottoms. Tab. lxvi. fig. 3.

6. UNGULA-

Gm. Lin. 3354.

Lin. Tr. viii. 107.

\* M. with a smooth curvated shell, the posterior margin inflected; hinge at the extremity furnished with two teeth.

Found on the Cornish coast.

7. UMBILI-CATUS. umbilicated. Lin. Tr. viii. 109. Mont. Test. Br. 164. id. Sup. 71.

M. with a strong shell, and the space opposite to the hinge deeply inflected or umbilicated; the form nearly oval. The length sometimes five inches. A rare species, and new. Sometimes dredged up off *Priestholme* island, *Anglesey*. Discovered by the reverend *Hugh Davies*.

The pea-crab found in this species of a larger size than usual. Tab. lxviii.

8. MODIOLUS. great.

Lin. Syst. 1158. No. 256. Gm. Lin. 3354. List. Conch. tab. 356. fig. Lin. Tr. viii. 107.

Mont. Test. Br. 163. id. Sup.
65.

195.

M. with a strong shell, with a blunted upper end; one side angulated near the middle; from

<sup>†</sup> Supposed by Mr. Montagu to be only a lusus of M. Modio-lus. Ed.

thence dilating towards the end, which is rounded. The greatest of *British* mussels. Length from six to seven inches.

Lies at great depths. Often seizes the bait of the ground lines, and is taken up with the hooks. Tab. lxix. Young. M. curtus. Tab. lxvii. fig. 2.

Lin. Syst. 1158. No. 257. Lin. Tr. viii. 109. t. 3. A. f. 9. CYGNEUS.

Gm. Lin. 3355. 2. β. t. 3. A. f. 3. swan.

List. Angl. App. tab. i. fig. 3. Mont. Test. Br. 179.

M. with a thin brittle shell, very broad and convex, marked with concentric *striæ*. Attenuated towards one end; dilated towards the other. Decorticated about the hinge. Color, dull green. Length six inches; breadth three and an half.

Inhabits fresh waters. Pearls are found in this and the following species. *Tab.* lxx.

Lin. Syst. No. 258. Gm. Lin. 3355.

Faun. Suec. No. 2158.

List. Angl. tab. i. fig. 2. Lin. Tr. viii. 110. Mont. Test. Br. 171. NUS. duck.

M. with a shell less convex and more oblong than the last. Very brittle, and semi-transparent. Space round the hinges like the last. Length about five inches; breadth two and a quarter.

Inhabits fresh waters.

Crows feed on these mussels; and also on different shell-fish. It is diverting to observe, that when the shell is too hard for their bills, they will fly with it to a great height, drop the shell on a rock, and pick out the meat, when the shell is fractured by the fall. *Tab.* lxxi.

11. DISCORS. Gm. Lin. 3356. Lin. Tr. viii. 111. t. 3. f. 8.

Mont. Test. Br. 167.

\* M. with an oval shell, horn-colored, partly diaphanous, very convex, striated lengthways on the fore-part, and crossways on the hinder, with sixteen or eighteen distant ribs.

On the south coast of *Wales*, *Southampton*, *Poole*, and *Ilfracombe*, *Devonshire*.

12. PRÆCI-SUS. Lin. Tr. viii. 112.

Mont. Test. Br. 165. t. 4. f. 2.

\* M. with an oblong, deformed, wrinkled shell, the hinge at the extremity; length a quarter of an inch, breadth half an inch.

Discovered by Mr. Montagu on the Devonshire coast and in Wales. Lin. Tr. viii. 112.

Mont. Test. Br. 173.

13. STRIA-

\* M. with a striated shell; beaks protruding; white, pellucid; minute; inhabits the sea.

Found at Reculver and Sandwich.

Mont. Test. Br. 169. id. Sup. 65. t. 26. f. 4.

14. DISCRE= PANS.

\* M. with a very flat, pellucid, brittle, suboval shell, with eight or nine distinct ribs.

Upon the western shores of *England* and *Scotland*.

Gm. Lin. 3362. Mont. Test. Br. Sup. 68. Sow. Br. Misc. tab. 16.

15. STAGNA-LIS.

\* M. shell oval, somewhat plane, ribbed transversely.

Mont. Test. Br. Sup. 69.

16. DECUS-

\* M. with a shell longitudinally ovate, thin, pellucid; delicately decussated; the *umbo* at the smaller end; sides equal; diameter about one eighth of an inch.

Scottish coast.

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17. PLICA-TUS. Gm. Lin. 3358.

Mont. Test. Br. Sup. 70.

M. with a very thin pellucid rhomboidal shell, slightly plaited and wrinkled, truncated on one side close to the *umbo*; length less than half an inch; breadth double its length.

Isle of Sky.

# GENUS XVIII. PINNA. NACRE.

Animal, a Slug.

Shell fragile, furnished with a beard; gapes at one end.

Hinge without a tooth.

Lin. Syst. 1160. Gm. Lin. Mont. Test. Br. 178.

3364. P. fragilis. Br. Zool. iv. 114.

Lin. Tr. viii. 113.

P. with a very thin semi-pellucid whitish shell, most opake near to the apex. Marked on the surface with longitudinal slender ribs, roughened with concave scales; and the whole traversed by innumerable fine striæ. In young shells the ribs and scales are almost obsolete. The valves of lesser transverse diameter. The largest about five inches and a half long; and three and a quarter broad in the broadest part. The figure is of a broader specimen than usual.

Dredged up at Weymouth. From the Port-LAND cabinet. Tab. lxxii. 2. INGENS.

Lin. Tr. viii. 112. Sup. 72.

Mont. Test. Br. 180. id. Mem. Wern. Soc. 102. ib. 394.

\* P. with a very rugged shell; rugæ extending lengthways from the beak in an irregularly concentric manner, and inflected in a right angle toward the hinge. Length twelve inches; breadth seven inches. H. D.

I saw specimens of this vast *Pinna* found among the farther *Hebrides*, in the collection of Doctor *Walker*, at *Moffat*. They were very rugged on the outside, but I cannot recollect whether they were of the kind found in the *Mediterranean* or *West Indies*.

3. MURICATA.

Gm. Lin. 3364. Lin. Tr. viii. 113. Mont. Test. Br. 183. t. 5. f. 3.

\* P. with a striated shell; scales concave, ovate pointed; length five inches; breadth two inches. Found near Weymouth by Dr. Pulteney.

# SECT. III. UNIVALVE SHELLS.

\* With a regular spire.

### GENUS XIX. NAUTILUS. SAIL-SHELL.

Shell univalve, consisting of compartments or cells, communicating with each other by means of perforations in the *septa* or partitions.

\* Spiral; spires or volutions connected.

Lin. Tr. viii. 114. Mont. Test. Br. 191. t. 6. 1. LACUSf. 3. id. Sup. 88. TRIS.

\* N. with a spiral shell, compressed, umbilicated, ridged; of three spires, above convex and connected, apertures half oval; partitions three rayed, perforated; diameter one fourth of an inch. Fresh water.

On flags and carices in Kent and Bucking-hamshire.

2. ROTATUS. Lin. Tr. viii. 114. 189. t. 15. f. 4. id. Sup. N. calcar. Mont. Test. Br. 76.

\* N. with a spiral smooth shell; aperture half heart-shaped; of six cells marked with elevated, flexuous striæ; ridge very entire; minute. Inhabits the sea.

3. Læviga- Lin. Tr. viii. 115.

Mont. Test. Br. 188. id. Sup. 75. t. 18. f. 7, 8.

\* N. with a spiral shell and smooth joints; minute.

Inhabits the sea.

4. DEPRESSU- Lin. Tr. viii. 115.

Mont. Test. Br. 190. id. Sup. 78. t. 18. f. 9.

\* N. with a spiral shell somewhat umbilicated on the sides, joints numerous, depressed; color dull white; minute.

Found very rarely at Reculver in Kent.

5. UMBILI-CATULUS.

TULUS.

Lin. Tr. viii. 115.

Mont. Test. Br. 191. id. Sup. 78. t. 18. f. 1.

\* N. with a spiral shell; umbilicated joints furrowed; minute. An inhabitant of the sea.

Sandwich.

Gm. Lin. 3370. Lin. Tr. viii. 115. Mont. Test. Br. 187. Sup. 6. CRISPUS. t. 18. f. 5.

\* N. with a spiral shell; half heart-shaped aperture; spires connected; about twenty joints, crenated; minute; inhabits the sea.

Devonshire, Dorsetshire, and on the south coast of Wales.

Gm. Lin. 3370. Lin. Tr. viii. 116. Mont. Test. Br. 186. id. Sup. 74. t. 18. f. 4. 7. BECCARII.

\* N. with a spiral shell, aperture obovate, volutions four or five, swelling, connected; joints furrowed.

Inhabits the sea.

\* N. with the volutions reversed; agrees with VAR. B. the preceding in every other respect.

Mont. Test. Br. Sup. 81. t. 18. f. 3.

8. INFLATUS.

\* N. with a spiral, brown, opaque shell, with three lobated volutions; the anterior end subglobose; minute.

Sand on the coast of Devon; rare.

9. CRASSU-LUS. Lin. Tr. viii. 117.

Mont. Test. Br. 191. id. Sup. 79. t. 18. f. 2.

\* N. with a thick shell, umbilicated on both sides; joints marked with lines; minute. An inhabitant of salt water.

Exceedingly rare. From Reculver.

10. LOBATU. Serpula Nautiloides. Gm. Lin. Serpula lobata. Mont. Test.
5. Serpula Nautiloides. Gm. Lin. Serpula lobata. Mont. Test.
Br. 515. id. Sup. 160.
Lin. Tr. viii. 117.

\* N. with a shell rather plane, confluent, verrucose, spiral; *septa* very delicate, and half-moon-shaped; minute.

Inhabits the sea.

\*\* Longish, and somewhat strait.

11. SEMILI-TUUS. Gm. Lin. 3372. Lin. Tr. viii. 118. Mont. Test. Br. 196. id. Sup. 80. t. 19. f. 3.

\* N. with a strait shell, the end spirally bent, spires contiguous; minute; inhabits the sea.

Sandwich and Sheppy island.

Lin. Tr. viii. 118.

Mont. Test. 195.

12. CARINA-TULUS,

\* N. with an oblong shell, ridged, aperture narrow oval.

Found at Seasalter and Sandwich; rare.

Gm. Lin. 3373. Lin. Tr. viii. 118. Mont. Test. Br. Sup. 82. t. 19. f. 6.

13. LEGU-MEN.

\* N. with a compressed shell, jointed, marginated on one side; with a lateral siphon; minute. Inhabits the sea.

Lin. Tr. viii. 119.

Mont. Test. Br. 197. id. Sup. 14. RECTUS. 82. t. 19. f. 4. f. 7.

\* N. with a bent shell; joints smooth depressed; very minute; inhabits the sea.

Sandwich.

Gm. Lin. 3373. Lin. Tr. viii. 119. Mont. Test. Br. 197. t. 6. f. 4. t. 14. f. 6.

15. RADI-CULA.

\* N. with a strait shell, oblong-ovate, joints swollen, smooth; minute; inhabits the sea.

Sandwich.

16. SUBAR- Lin. Tr. viii. 119. Mont. Test. Br. 198. t. 6. f. 5. CUATUS.

\* N. with a shell somewhat cylindric and bent with three globose joints, the others indistinct; minute; inhabits the sea shore.

Sandwich.

- 17. JUGOSUS. N. obliquus. Gm. Lin. 3372. Mont. Test. Br. 198. t. 14. Lin. Tr. viii. 119. f. 4.
  - \* N. with a subcylindric, subarcuate shell, with nine globular ribbed joints.

Found on the Kentish coast by Mr. Boys.

18. COSTA- Lin. Tr. viii. 120. f. 5. Var. β. Sup. t. 19. Tus. Mont. Test. Br. 199. t. 14. f. 2.

\* N. with a shell strait and subcylindric, having twelve swollen ribbed joints.

By Mr. Boys on the Kentish coast.

19. SUBAR-

Mont. Test. Br. Sup. 80. t. 19. f. 1.

\* N. with a white, glossy, semipellucid shell, subcrenated, subconvoluted, the anterior part strait, the posterior half convoluted; minute.

Mont. Test. Br. Sup. 86. t. 19. f. 5.

20. SPINU-LOSUS.

\* N. with a shell with three globose articulations of a pale chesnut color, covered with reflected spines; minute.

Mont. Test. Br. Sup. 86.

21. BICARI-NATUS.

\* N. with a subcylindric shell, bent, having eleven subglobose bicarinated orbiculations; minute.

Mont. Test. Br. Sup. 87. t. 30. f. 9.

22. LINEA-

\* N. with a strait smooth glossy shell, somewhat tapering, a little compressed, with faint ribs at the smaller end; minute.

# GENUS XX. CYPRÆA. GOWRIE.

Animal, a Slug. Shell sub-oval, blunt at each end. APERTURE the length of the shell, longitudinal, linear; toothed.

1. PEDICU- Lin. Syst. 1180. No. 364. Lin. Tr. viii. 120. LUS. Gm. Lin. 3418. List. Angl. tab. iii. fig. 17. Conch. tab. 706, 707. fig. 56 and 57.

C. arctica. Mont. Test. Br. 201. id. Sup. 88.

C. with numerous striæ, some bifurcated. Varies with having three brown spots on the back. Tab. lxxiii. fig. 1.

2. BULLATA.

Lin. Tr. viii. 121.

Mont. Test. Br. 202. t. 6. f. 1.

\* C. with a smooth subglobose shell; smaller than the preceding. Inhabits the sea near Tenby, and in Devonshire.

This genus is called Cypræa, and Venerea, from its being peculiarly dedicated to Venus; who was said to have endowed a shell of this

genus with the powers of a *Remora*, so as to impede the course of the ship which was sent by *Periander*, tyrant of *Corinth*, with orders to castrate the young nobility of *Corcyra*.\*

\* Plinii lib. ix. c. 25. xxxii. c. 1.

#### GENUS XXI. BULLA. DIPPER.

Animal, of some species, a Slug. Shell sub-oval.

Aperture oblong, smooth; one end a little convoluted.

1. LIGNARIA, Lin. Syst. 1184. Gm. Lin. Lin. Tr. viii. 125. ib. ii. 15. 15. 1600d. 3425. Mont. Test. Br. 205. List. Conch. tab. 714. fig. 71.

B. of an oval form, and striated transversely. Is narrower towards one end, which is a little umbilicated. Of a dirty color, like some woods, whence the trivial name. The inside of the shell visible to the very end, through the columella. Length about two inches. Tab. lxxiii. fig. 2.

2. AMPULLA. obtuse. Lin. Syst. 1183. No. 378. Mont. Test. Br. 206. t. 7.

Gm. Lin. 3424. f. 1.

Lin. Tr. viii. 124.

B. with a brittle shell, more obtuse at the end; and the inner side lapping over the *columella*, so as to render it invisible.

Found near Weymouth.

Gm. Lin. 3424. Lin. Tr. viii. 121. Mont. Test. Br. 208. id. Sup. 94.

3. APERTA.

\* B. with a pellucid shell, somewhat orbicular, faintly striated crosswise, entirely gaping; diameter from half to one inch.

Found on the coast of Anglesey and Llýn, and on the western and southern coasts.

Lin. Tr. viii. 122.

Mont. Test. Br. 215. t. 7. f. 7.

4. CATENA.

\* B. with an oval pellucid shell, striated crosswise, spiral; and obtuse; minute. Inhabits the sea.

Found among sand, by Mr. Montagu, in Bigberry bay, Devonshire.

Lin. Tr. viii. 122. ib. v. t. 1. f. 9, 10, 11.

5. EMARGI.
NATA.

\* B. with a gibbous shell; aperture emarginate. Inhabits the sea.

Found near Pembroke by the late Mr. Adams.

6. DENTICU-LATA. Lin. Tr. viii. 122. ib. v. t. 1. f. 3, 4, 5.

\* B. with an oblong, subequal, smooth, obtuse shell; aperture with a sharp tooth at the end; small.

Also found near *Pembroke* by the same gentleman.

7. PLUMULA.

*Lin. Tr.* viii. 123.

Mont. Test. Br. 214. t. 15.

\* B. with a depressed, ovate-oblong, gaping shell; length an inch and an half; breadth an inch and a quarter.

Discovered by Mr. Montagu at Milton sands, Devonshire.

8. HALIO-

Lin. Tr. viii. 123.

Mont. Test. Br. 211. t. 7. f. 6.

\* B. with a pellucid sub-oval shell; aperture dilated; length three quarters of an inch; breadth half an inch.

Devonshire and Dorsetshire.

Gm. Lin. 3424. 106. t. 6. f. 1. 9. hydatis. Lin. Tr. viii. 123. ib. ix. Mont. Test. Br. 217.

\* B. with a pellucid orbicular shell, faintly striated lengthways; umbilicated at the end; diameter one inch; inhabits the sea.

Western coast.

Gm. Lin. 3434. Mont. Test. Br. 219. 10. AKERA. Lin. Tr. viii. 125.

\* B. with a pellucid ovate shell; end abrupt, caniculated; size of an hazel nut; inhabits the sea.

Scotland, Dorsetshire, Portsmouth.

Lin. Tr. viii. 126. Voluta Jonensis. Br. Zool. 4to. 11. DIAPHA-Mont. Test. Br. 225. t. 7. iv. 101.\* tab. lxxi. fig. 87.

NA.

f. 8.

\* B. with a very thin brittle shell, with two small spires; length three eighths of an inch; breadth two eighths of an inch; inhabits the sea. Tab. lxxiv. fig. 2.

Devonshire.

12. FONTI-NALIS.

Gm. Lin. 3427. Lin. Tr. viii, 126. Mont. Test. Br. 226. id. Sup. 96.

\* B. with an ovate pellucid shell; spires reversed, and faint; aperture ovate-oblong; length half an inch; breadth a quarter of an inch.

Running and stagnant waters.

13. RIVALIS.

Lin. Tr. viii. 126.

Mont. Test. Br. Sup. 97.

\* B. with an oval pellucid shell; spire reversed, pointed, but little prominent; aperture ovateoblong; length half an inch; breadth a quarter of an inch.

In streams in *Hampshire*.

14. HYPNO-RUM.

Gm. Lin. 3428. Lin. Tr. viii. 127.

Mont. Test. Br. 228.

\* B. with an ovate pellucid shell; spire reversed and prominent; aperture ovate lanceolate; size of an oat grain.

In ponds and ditches about London and elsewhere.

List. Conch. tab. 714. fig. 70. Lin. Tr. viii. 127.

DRACEA.
cylindric.

B. white, cylindric, a little umbilicated at the end.

About twice the size of a grain of wheat. Tab. lxxiii. fig. 3.

Lin. Tr. viii. 128. Mont. Test. Br. 223. t. 7. f. 3. 16. OBTUSA.

\* B. with subcylindric shell; spire a little prominent; length a quarter of an inch; breadth one eighth of an inch.

Coasts of Kent, Dorsetshire, and South Wales.

Lin. Tr. viii. 128.

B. truncata. Mont. Test. Br. 223. t. 7. f. 5. id. Sup. 98.

17. RETUSA.

\* B. with a subcylindric shell; spire abruptly umbilicated; length one eighth of an inch.

Cornwall, Dorsetshire, and Devonshire.

Lin. Tr. viii. 129. Mont. Test. Br. 222. t. 7. f. 4.

18. UMBILI-CATA.

\* B. with an oblong oval shell; spire obtusely umbilicated; length one eighth of an inch; inhabits the sea.

Discovered by Mr. Montagu at Falmouth.

19. PATULA. open.

Lin. Tr. viii. 121.

Mont. Test. Br. 207. id. Sup. 93.

B. with one end much produced, and fusiform; the aperture very patulous.

Weymouth. From the PORTLAND cabinet. Tab. lxxiii. fig. 4.

20. FLEXILIS.

Mont. Test. Br. Sup. App. 168.

\* B. with a pellucid horn-colored shell, flexible when moist, much more wrinkled than the B. haliotoidea, which it otherwise much resembles; length half an inch.

#### GENUS XXII. VOLUTA. VOLUTE.

Animal, a Slug.
Aperture narrow, without a beak.
Columella plaited.

Lin. Syst. 1187. No. 394. Gm. Lin. 3437.

List. Conch. tab. 835.

Lin. Tr. viii. 129. Mont. Test. Br. 231.

l. TORNATI-LIS. oval.

V. exactly oval; acuminated at each end; with a single fold near the mouth, or upper part of the *columella*. With five spires. Striated spirally. Pale red, with white *fasciæ*.

Anglesey. Tab. lxxiv. fig. 1.

Lin. Tr. viii. 130.

Mont. Test. Br. 234. Sup. t. 20. f. 5.

2. DENTICU-LATA.

\* V. with an ovate shell; spire raised, pointed; columella with three plaits; lip toothed; length half an inch; breadth scarcely a quarter of an inch.

Found plentifully at *Plymouth*, *Barnstaple*, &c.

3. ALBA. *Lin. Tr.* viii. 130.

Mont. Test. Br. 235. id. Sup. 101.

\* V. with an oval shell; spire obtuse; aperture contracted; length one tenth of an inch; inhabits the sea.

Sandwich and Sheppy island.

4. SPIRALIS. Lin. Tr. viii. 130.

Turbo spiralis. *Mont. Test. Br.* 323. *t*. 12. *f*. 9.

\* V. with a conic shell; the first volution with transverse spiral ribs at the base, but longitudinal towards the end; minute.

Found by Mr. Boys at Sandwich, and in Salcombe bay by Mr. Montagu.

5. UNIDEN-TATA. *Lin. Tr.* viii. 131.

Turbo unidentatus. Mont. Test. Br. 324.

\* V. with a conic smooth shell; five or six volutions, not much raised; columella with a single tooth; minute.

Found by Mr. Montagu on the Pecten maximus, in Salcombe bay, Devonshire.

Lin. Tr. viii. 131.

Turbo interstinctus. Mont. 6. INTER-Test. Br. 324. t. 12. f. 10. STINCTA.

\* V. shell pyramidal with five plane volutions, ribbed lengthways; columella toothed; minute; inhabits the sea.

Found in sand from Bigberry bay.

Lin. Tr. viii. 131.

Mont. Test. Br. 325. Sup. 7. PLICATA. t. 21. f. 2.

\* V. with a smooth rather slender shell, six flattish volutions, *columella* plaited; minute; inhabits the sea.

Found in sand from Bigberry bay, by Mr. Montagu.

Lin. Tr. viii. 132.

Turbo pallidus. Mont. Test. 8. AMBIGUA. Br. 325. id. Sup. 133.

\* V. shell smooth, tapering, with six or seven flattish volutions; columella slightly plaited; aperture suborbicular; minute; inhabits the sea.

Salcombe bay.

9. PALLIDA.

Gm. Lin. 3444. Lin. Tr. viii. 132. - Mont. Test. Br. 232.

\* V. with an oblong-ovate entire shell; spire obtuse; columella with four plaits; length half an inch; breadth a quarter of an inch; inhabits the sea.

Tenby.

10. CATE-

*Lin. Tr.* viii. 133.

Mont. Test. Br. 236. t.6. f. 2.

\* V. with an ovate very glossy shell; spire abrupt; columella with four plaits; minute; inhabits the sea.

Discovered by Mr. Swainson in St. Austle bay.

H1. LÆVIS.

Lin. Tr. viii. 133.

Cypræa voluta. *Mont. Test. Br.* 203. *t*. 6. *f*. 7.

\* V. with a very smooth shell; spire obtuse; columella with two plaits; lip gibbous, faintly toothed; length scarcely half an inch.

Salcombe bay.

#### Mont. Test. Br. Sup. 99.

12. TRIPLI-

\* V. with a smooth ovate shell; chesnut brown; six volutions, first very large; aperture narrow; pillar with three plaits; length scarcely half an inch.

#### Mont. Test. Br. Sup. 100.

13. BIDEN-TATA.

\* V. with a strong conic white glossy shell, of six or seven volutions; pillar furnished with plaits like teeth; length a quarter of an inch.

Found near *Dunbar*, and on the *Devonshire* coast.

## Mont. Test. Br. Sup. 101.

14. HYALI-

\* V. with a smooth pellucid shell; six flat volutions and obtuse apex.

Shell bank near Dunbar.

#### Mont. Test. Br. Sup. 102.

15. BULLA-

\* V. with a pale ovate horn-colored shell, having eleven or twelve flat subimbricated volutions; aperture contracted, with one strong spiral ridge on the *columella*, which is extended into a canal; length three eighths of an inch.

In Mr. Laskey's cabinet.

16. HETERO-CLITA. Mont. Test. Br. Sup. App. 169.

\* V. with a white glossy tapering shell, of eight or nine reversed volutions; aperture narrow, with one plait on the *columella*; length one quarter of an inch; breadth one third of the length.

Dunbar; extremely rare.

## GENUS XXIII. BUCCINUM. WHELK.

Animal, a Slug.

Shell spiral, gibbose.

Aperture ovate, ending in a short canal, bending to the right.

Lin. Syst. 1202. No. 467. Gm. Lin. 3484. Faun. Suec. No. 2161. List. Angl. tab. iii. fig. 5, 6. List. Conch. tab. 965. Lin. Tr. viii. 135. Mont. Test. Br. 239. id. Sup. 104. LUS.

massy.

B. with about five spires, often obsolete; inside of the mouth slightly toothed.  $\Lambda$  very strong thick shell, of a whitish color.

Varieties, yellow; or fasciated with yellow on a white ground; or sulcated spirally, and sometimes reticulated.

See figures I. I. I. tab. lxxv.

In many, which I suspect to be shells not arrived at full growth, the lip is thin and cultrated. Length near an inch and a half.

Inhabits (in vast abundance) rocks near low-water mark.

This is one of the *English* shells that produces the purple dye, analogous to the *purpura* 

of the antients: our shell has been made use of as an object of curiosity.

The antient has been long since superseded by the introduction of the insect Coccus Cacti, or the Cochineal beetle. The shells were of the genus of Murex, mentioned by Linnæus, pp. 1214, 1215. But one was a sort of Buccinum. Pliny describes both.\* The finest was the Tyrian.

' Tyrioque ardebat Murice lana;'

A strong expression of *Virgil*, who describes the cloth,

' Glowing with the Tyrian MUREX.'

The species of shells are found in various parts of the *Mediterranean*. Immense heaps of them are to be seen about *Tarentum*† to this day, evincing one place where this pretious liquor was extracted.

The process of obtaining the English Purpura is well described by Mr. IVilliam Cole, of Bristol, in 1684, in the following words:

'The shells being harder than most of other kinds, are to be broken with a smart stroke with a hammer, on a plate of iron, or firm

<sup>\*</sup> Lib. ix. c. 36. † Baron Riedesel's Travels, p. 174. † Ph. Tr. Abr. ii. 826.

' piece of timber, (with their mouths down-' wards) so as not to crush the body of the ' fish within; the broken pieces being picked ' off, there will appear a white vein, lying transversely in a little furrow or cleft, next to ' the head of the fish, which must be digged out with the stiff point of a horse-hair pencil, ' being made short and tapering. The letters, ' figures, or what else shall be made on the ' linen, (and perhaps silk too) will presently ' appear of a pleasant light-green color, and if ' placed in the sun, will change into the follow-' ing colors, i. e. if in winter, about noon; if in the summer, an hour or two after sun-rising, ' and so much before setting; for in the heat of the day, in summer, the colors will come on so fast, that the succession of each color ' will scarcely be distinguished. Next to the ' first light-green, it will appear of a deep-' green, and in a few minutes change into a ' sea-green, after which, in a few minutes more, ' it will alter into a watchet-blue; from that, in a little time more, it will be of a purplish-red; ' after which, lying an hour or two, (supposing ' the sun still shining) it will be of a very deep 'purple-red, beyond which the sun can do no ' more.

<sup>&#</sup>x27; But then the last and most beautiful color.

'after washing in scalding water and soap, will '(the matter being again put into the sun or wind to dry) be of a fair bright crimson, or near to the prince's colour, which afterwards, notwithstanding there is no use of any stiptick to bind the colour, will continue the same, if well ordered; as I have found in handkerchiefs, that have been washed more than forty times; only it will be somewhat allayed, from what it was, after the first washing. While the cloth so writ upon lies in the sun, it will yield a very strong and feetid smell, as if garlick and assa-fætida were mixed together.'

2. PERDIX.

Gm. Lin. 3470. Lin. Tr. viii. 133.

Mont. Test. Br. 244. t. 8. f. 5.

\* B. with an oval shell, inflated, something furrowed, brown, waved, with white aperture, without teeth; size of an hazel nut; inhabits the sea.

Weymouth.

Gm. Lin. 3476. Lin. Tr. viii. 134. Mont. Test. Br. 244.

3. BILINEA-TUM.

\* B. with a smooth ovate shell, with a double row of tubercles on the largest volution; inhabits the sea. Tab. lxxxii. fig. 9.

Lin. Tr. viii. 135.

Mont. Test. Br. 243. t. 3. f. 1.

4. HEPATI-

\* B. with an ovate-oblong shell, somewhat plaited; spire pointed, raised; the inner part of the lip wrinkled; length one inch; breadth five eighths of an inch; inhabits the sea.

Rarely found at Weymouth.

Lin. Tr. viii. 136.

Mont. Test. Br. 245.

5. LINEA-

\* B. with an oblong shell, spire pyramidal, pointed; size of a wheat grain; inhabits the sea; not the B. lineatum of Gmelin.

Cornwall, Dorsetshire, and Devonshire.

6. GLACIALE. Gm. Lin. 3491. Lin. Tr. viii. 136.

Mont. Test. Br. Sup. 109.

\* B. with a smooth ovate-oblong shell, somewhat striated, the last volution subcarinated; size of the end of a thumb.

Discovered among the Orkney islands by Mr. Agnew.

7. UNDATUM. waved.

Lin. Syst. 1204. No. 475. List. Conch. tab. 962. fig. Gm. Lin. 3492.

14.

Faun. Suec. No. 2163. List. Angl. tab. iii. fig. 2.

Lin. Tr. viii. 137. Mont. Test. Br. 237.\*

B. with seven spires, spirally striated, and deeply and transversely undulated. Length three inches.

Inhabits deep water. Tab. lxxvi.

(VAR. A.) STRIATUM. striated.

B. leve tenue striatum et undatum. List. Angl. p. 157. tab. iii. fig. 3.

B. with eight spires, with elevated striæ, undulated near the apex. Length near four inches. Tab. lxxvii.

Gm. Lin. 3495.

Lin. Syst. 1204. No. 476. List. Conch. tab. 966. fig. 21. Lin. Tr. viii. 137. Mont. Test. Br. 240.

8. RETICU-LATUM. Reticulated.

B. with spires scarcely raised, and strongly reticulated; of a deep brown color, and of an oblong oval form. The aperture white, glossy, and denticulated. Size of a hazel-nut. Tab. lxxv. fig. 2. et fig. \*2. († young).

Lin. Tr. viii. 138. t. 4. f. 8. Mont. Test. Br. 242. t. 9. f. 7. 9. AMBI-GUUM.

\* B. with a somewhat pyramidal shell, striated across, ribbed lengthways; lip thinner; length five eighths of an inch; breadth three eighths of an inch; inhabits the sea.

Near Weymouth.

B. minutum. Br. Zool. iv. 10. MACULA. Lin. Tr. viii. 138. t. 4. f. 4. Mont. Test. Br. 241. t. 8. 122. f. 4.

B. with five spires, striated spirally; ribbed transversely. Size less than a pea.

Found on the western coasts: also in Norway. Vide Act. Nidr. tom. iv. tab. 16. fig. 25.

Tab. lxxxii. fig. 6.

† The Buccinum pullus of the preceding edition. ED. T VOL. IV.

11. cinc- Lin. Tr. viii. 139.

Mont. Test. Br. 246. t. 15.

\* B. a conic shell, with numerous ribs, sharp pointed; length a quarter of an inch; inhabits the sea.

Near Weymouth, by Mr. Bryer; rare.

12. MINI-

*Lin. Tr.* viii. 139.

Mont. Test. Br. 247. t. 8. f. 2 id. Sup. 109.

\* B. an acuminated shell, with conspicuous ribs and transverse *striæ*; length two tenths of an inch.

Found on the south coast of Devonshire.

13. TERRES-TRE. Lin. Tr. viii. 139.

Mont. Test. Br. 248. t. 8. f. 3.

\* B. with a subulate smooth shell, sutures of the volutions conspicuous, oblique; minute.

Inhabits heathy ground, upon the roots of grass and under moss on *Barham* downs.

Lin. Tr. viii. 140.

14. OBTUSU-

\* B. shell ventricose, with three volutions; aperture oval; minute.

Faversham creek; rare.

Lin. Tr. viii. 140. ib. iii. t. 13. f. 34.

15. BREVE.

\* B. shell with five longitudinally ribbed volutions, striated across; minute.

On the coast of Pembrokeshire.

Lin. Tr. viii. 140. ib. iii. t. 13. f. 56.

16. MINU-

\* B. shell with three longitudinally ribbed volutions; minute.

On the coast of Pembrokeshire.

Lin. Tr. viii. 140. ib. iii. t. 13. f. 78.

17. LÆVE.

\* B. smooth shell, with three volutions; tail elongated; minute.

On the coast of Pembrokeshire.

18. OBTUSIS. SIMUM.

 $Lin.\ Tr.\ {\it viii.}\ 140.\ ib.\ iii.\ t.\ 13.\ f.\ 9.\ 10.$ 

\* B. smooth shell, with three volutions; aperture narrow; tail elongated; minute.

On the coast of *Pembrokeshire*.

# GENUS XXIV. STROMBUS. SCREW-SHELL.

Animal, a Slug. Shell univalve, spiral.

APERTURE much dilated, and the lip expanding, produced into a groove, bending to the left.

Lin. Syst. 1207. No. 490.
 Gm. Lin. 3507.
 Faun. Suec. No. 2164. List.
 Conch. tab. 866, fig. min.

Lin. Tr. viii. 141. Mont. Test. Br. 253. 1. PES PELE= CANI. corvorant's foot.

STR. with ten spires, tuberculated along their ridges, with the lip expanding and digitated. The spires end in a most exquisite point. Length about two inches. Extent of the expanse an inch and a quarter. Tab. lxxviii.

Lin. Tr. viii. 142.

Mont. Test. Br. 255, id. Sup. App. 169.

2. COSTATUS.

\* STR. with a subulate shell; lip rounded; length half an inch; inhabits the sea.

Cornwall, Dorsetshire, and Devonshire; rare.

3. TURBO-FORMIS. Mont. Test. Br. Sup. 110. Sup. id. 170. t. 30. f. 7.

\* STR. shell of seven plain volutions, with about eighteen transverse ribs; aperture suborbicular; apex obtuse; minute.

Mr. Montagu suggests, in his Appendix, that it may prove a variety of the Strombus costatus.

#### GENUS XXV. MUREX. ROCK-SHELL.

Animal, a Slug.

Shell spiral, often rough with knobs.

Aperture oval; the beak narrows into a strait canal or gutter, a little ascending.

\* Sutures rough, with curled scales, tail short.

Lin. Syst. 1206. No. 526. Gm. Lin. 3530. Gualtieri tab. 49. fig. H. Lin. Tr. viii. 142. Mont. Test. Br. 259. 1. ERINA-CEUS. urchin.

M. with an angular shell, surrounded with tubular ribs; each rib ending with its mouth on the angle. Consists of six spires on the whole; a most rugged shell. The aperture exactly oval; the gutter or canal covered. Length near two inches. Tab. lxxix. fig. 1.

\*\* With a strait elongated tail; gutter covered.

Lin. Tr. viii. 147.

Mont. Test. Br. 257.

2. CARINA-TUS. angulated.

M. with five or six spires, the body ventricose: the spires rising into angulated ridges. The aperture semicircular. Length near four inches.

From the PORTLAND cabinet. *Tab.* lxxx. and Frontispiece.

3. GRACILIS.

Lin. Tr. viii. 143.

Mont. Test. Br. 267. t. 15. f. 5. id. 586.

\* M. with a tapering shell; volutions ribbed and striated in a decussated manner; sutures plane; length seven eighths of an inch; breadth two eighths.

Discovered by Mr. *Montagu* on the sands of *Biddeford* bay.

4. ATTENU-ATUS. Lin. Tr. viii. 143.

Mont. Test. Br. 266. t. 9. f. 6.

\* M. with a slender tapering shell; the volutions scarcely prominent, with nine equi-distant conspicuous ribs; length half an inch; breadth one eighth of an inch.

Discovered by Mr. *Montagu* in sand from *Falmouth* harbour and at *Biddeford*.

5. NEBULA. various-colored.

Lin. Tr. viii. 143.

Mont. Test. Br. 267. t. 15. f. 6.

\* M. with a tapering shell, and eight ribbed volutions, most delicately reticulated; tail oblique; length half an inch; inhabits the sea. *Tab.* lxxxii. *fig.* 7.

Devonshire and south Wales coasts.

Lin. Tr. viii. 144.

Mont. Test. Br. 268. t. g. f. 5.

6. SEPTAN-GULARIS,

\* M. with an oblong shell, and seven longitudinal ribs, which reach the whole length, but little swelling; length five eighths of an inch.

Falmouth and Weymouth.

Lin. Tr. viii. 144. Mont. Test. Br. 265. Act. Nidr. iv. t. 16. f. 26. 7. COSTATUS, ribbed,

M. with an oblong shell of six spires, neatly ribbed; minute.

Anglesey.

Inhabits also Norway. Tab. lxxxii. fig. 2.

Lin. Tr. viii. 144.

Mont. Test. Br. 262. t. 9.
f. 1.

M. acuminatus. Br. Zool. iv. 125.

8. TURRI-

\* M. with a shell tapering to a fine point, striated across, seven volutions ribbed, angular; length three fourths of an inch; breadth one fourth of an inch; inhabits the sea.

Kent, Devonshire, and south Wales.

Lin. Tr. viii. 145.

Mont. Test. Br. 263.

9. RUFUS.

\* M. with a shell tapering to a point; six volutions, with fifteen or sixteen ribs transversely

striated; length three eighths of an inch; breadth one eighth of an inch; inhabits the sea.

Found on the *Dorsetshire* and *Devonshire* coasts.

10. SINUO- Lin. Tr. viii. 145. Mont. Test. Br. 264. t. 9. sus. f. 8.

\* M. with a shell tapering to a point, six volutions, and seven raised transversely striated ribs; tail very short; the fore part of the lip divided; length three fourths of an inch; breadth a quarter of an inch; inhabits the sea.

Found at Weymouth by Mr. Bryer.

11. SUBAN- M. subantiquatus. Lin. Tr. M. antiquus. Mont. Test. Br. Tiquatus. viii. 147. 257.

M. with eight spires finely striated; the first very ventricose. Color a dark dirty yellow. Length three inches and a half.

12. ANTIQUUS.
antique.

Gm. Lin. 3546.
Faun. Suec. No. 2165. List.
Angl. tab. 3. fig. 1.

M. antiquus. Lin. Tr. viii.
145.
M. despectus. Mont. Test.
Br. 256. id. Sup. iii.

M. with eight spires; the first large, ventricose, and produced; the others more prominent than those of the preceding. Striated and somewhat rugged. The outside white, the inside glossy and yellow. Length nearly five inches.

Inhabits the deep sea. Dredged up in plenty with oysters. Eaten by the poor; but oftener used for baits for cod and ray. Tab. lxxxi.

Lin. Syst. 1244. No. 565. Gm. Lin. 3552. List. Angl. tab. iii. fig. 4. Conch. tab. 913. fig. 5. Lin. Tr. viii. 147. Mont. Test. Br. 258. 13. corneus.

horney.

M. with a narrow oblong shell of eight striated spires. Snout much produced. Color pure white, covered with a brown *epidermis*. Length near three inches. *Tab*. lxxix. *fig*. 2.

Lin. Tr. viii. 148.

Mont. Test. Br. 261. t. 9.

14. LINEARIS.

\* M. with a rough shell, ending in a sharp point; volutions rounded, ribbed, and striated; length scarcely half an inch; breadth one eighth of an inch; inhabits the sea.

Falmouth harbour; Salcombe bay.

15. PURPU-REUS. Lin. Tr. viii. 148.

Mont. Test. Br. 260. t. 9. f. 3.

\* M. with an oblong, caudate shell; volutions round, cancellated, or cross-barred; length five eighths of an inch; breadth one quarter of an inch.

Rare species, found by Mr. Montagu in Salcombe bay.

16. MURICA-TUS. Lin. Tr. viii. 149.

Mont. Test. Br. 262. t. 9. f. 2.

\* M. with an oblong wrinkled shell; volutions tumid, with longitudinal ribs, and raised tuber-culated *striæ*; length half an inch; breadth a quarter of an inch.

Also discovered by Mr. Montagu in Salcombe bay.

17. BAMFFI-US. Lin. Tr. viii. 149.

Mont. Test. Br. Sup. 117.

\* M. with a white tumid shell; ribs acute, plaited longitudinally; length one inch; breadth half an inch. Tab. lxxxii. fig. 5.

Coast near Bamff.

Lin. Tr. viii. 149. ib. iii. 68.

18. MINU-TISSIMUS.

\* M. with a shell having five spirally striated volutions; ribs distant; canal covered; this minute species inhabits the sea.

Pembroke.

Gm. Lin. 3531.

Mont. Test. Br. Sup. App. 170.

19. GYRI-

\* M. with a strong, brown, conic shell, of four volutions, regularly covered with chesnut colored tubercles: aperture orbicular; minute.

Mont. Test. Br. Sup. 114.

20. ACCINC-

\* M. with a shell of six or seven finely striated, ribbed volutions; aperture oblong; canal short; length four tenths of an inch; breadth one tenth of an inch.

Frith of Forth; extremely rare.

Mont. Test. Br. Sup. 115. t. 30. f. 6.

21. SUBU-LATUS.

\* M. with a slender white shell, of about fifteen scarcely raised volutions, with two rows of beads, divided by a depressed line; aperture

small; canal short, bent to the left; length three eighths of an inch.

22. PROXI-

Mont. Test. Br. Sup. 118. t. 30. f. 8.

\* M. with a thick white shell, of six volutions, crossed by eleven strong ribs; aperture ovateoblong; outer lip broad and reflected; canal short; length nearly half an inch.

Tyningham sands near Dunbar.

23. DECOL-LATUS. shortened. Lin. Syst. 1226. No. 578. Gm. Lin. 3563.

A species offered with doubts. Perhaps accidentally mutilated. Minute. Let the critical conchyliologist consult *tab*. lxxxii. *fig*. 3.

\*\*\* Turrited, tapering, tail very short.

24. FUSCA- Gm. Lin. 3562. TUS. Lin. Tr. viii. 149. t. 4. f. 6. Mont. Test. Br. 269. Turbo tuberculata. Br. Zool. iv. 129.

M. with a pyramidal shell; the upper  $stri\alpha$  of the volution denticulated; length an inch and an half. Tab. lxxxv. fig. 1.

Lin. Tr. viii. 150.

25. RETICU-LATUS.

\* M. with a pyramidal shell, reticulated with rows of tubercles; canal scarcely discernible; minute; inhabits the sea.

Found from Kent to Cornwall, and on the coast of south Wales.

Lin. Tr. viii. 150.

Mont. Test. Br. 270. id. Sup. 116.

26. TUBER-CULARIS.

\* M. with a pyramidal shell, having nine or ten tuberculated volutions, divided by a faint line or suture; minute; inhabits the sea.

Sparingly found at the mouth of the Aun.

Lin. Tr. viii. 151.

Mont. Test. Br. 271.

27. ADVERSUS.

\* M. with a pyramidal shell; volutions reversed, marked with a triple row of tubercles; the middle one smallest; length about half an inch.

Cornish and Devonshire coasts.

Animal, a Slug.
Shell conic, spiral.
Aperture sub-triangular.

GENUS XXVI. TROCHUS. TOP.

\* Umbilicated, erect, columella perforated.

1. MAGUS. tuberculated.

Lin. Syst. 1228. No. 585. Gm. Lin. 3567.

Lin. Tr. viii. 151. Mont. Test. Br. 283.

TR. with a perforated base; somewhat depressed; striated; with the ridges of the spires rising into blunt distinct tubercles. Color white, zig-zagged with red.

When the upper coat is taken off, the next is of a rich mother-of-pearl color.

Anglesey. Tab. lxxxiii. fig. 4.

2. CINEREUS. Lin. Tr. viii. 152.

Mont. Test. Br. 289. id. Sup. 119.

\* Tr. a tapering umbilicated shell, with distinct plane volutions.

Lin. Tr. viii. 152. Br. 284. 3. LINEATUS. T. cinerarius. Mont. Test. Br. Zool. iv. 127. cinereous.

TR. with a perforated base; spires a little prominent. Of a cinereous color, striped obliquely. Size of a pea.

Anglesey.

List. Conch. tab. 641. fig. 31, Lin. Tr. viii. 153.

32. Mont. Test. Br. 286.

List. Angl. tab. iii. fig. 15.

T. umbilicaris. Br. Zool. iv.

126.

TR. with a perforated base, and of a convex conic form; dirty white waved with purple. Varies much in colors.

A most common shell on all our shores. *Tab.* lxxxiii. *fig.* 3.

Lin. Tr. viii. 153. Mont. Test. Br. 280. t. 10. 5. TUMIDUS. f. 4.

\* Tr. with a somewhat conic striated shell, volutions plane, prominent; minute; inhabits the sea.

Devonshire coast, adhering to shells.

6. FUSCUS.

Lin. Tr. viii. 154.

\* Tr. with an umbilicated shell, and five margined volutions; aperture nearly circular; minute; inhabits the sea.

Perhaps a variety of *T. tumidus?* Common near *Sandwich*.

\*\* Imperforated, erect, umbilicus closed.

7. CRASSUS.

Lin. Tr. viii. 154.

Mont. Test. Br. 281.

\* Tr. with a somewhat ovate imperforated shell; columella with one tooth; length one inch, diameter nearly the same; inhabits the sea.

Found in abundance on the western coast and elsewhere.

8. PAPILLO-SUS. Lin. Tr. viii. 155.

Mont. Test. Br. 275. t. 10. f. 3.

\*Tr. with an imperforated conic shell; volutions rather plane, with two nodulated lines along each volution; base tumid.

Cornwall, Poole, and Weymouth.

Lin. Syst. 1231. No. 599. Gm. Lin. 3579. List. Conch. tab. 616. No. 1. List. Angl. tab. iii. fig. 9. ZIZIPHI14. Faun. Suec. No. 2168.

Lin. Tr. viii. 155.

Mont. Test. Br. 274.

TR. with a sharp apex; bottom imperforated; with a *stria* elevated above the rest. Each is smooth. The color livid, much spotted with deep red. *Tab.* lxxxiii. *fig.* 1.

Lin. Syst. 1230. No. 598?

10. CONULUS. conule.

TR. with an imperforated base, and a prominent line along the spires. Scarcely distinct from the last. *Tab.* lxxxiii. *fig.* 2.

Lin. Tr. viii. 156.

Mont. Test. Br. 277.

11. EXIGUUS.

\* Tr. with an imperforated conic, striated shell; volutions marked with four or five crenated ridges; length three eighths of an inch; breadth a quarter of an inch; inhabits the sea shore.

Southern and western coasts.

12. ERY-THROLEU-COS. Gm. Lin. 3581.

Trochus pyramidalis parvus, ruberrimus fasciis crebris exasperatus. List. Conch. tab. 616. fig. 2.

Lin. Tr. viii. 156.

Tr. striatus Mont. Test. Br. 278. id. Sup. 119.

Tr. exasperatus. Br. Zool. iv. 126.

\* Tr. shell imperforated, conic, smooth, striated across; volutions closely connected.

13. TERRES-TRIS. land. Lin. Tr. viii. 157.

Mont. Test. Br. 287.

TR. minute, conic, livid.

A new species, discovered in the mountains of Cumberland, by Mr. Hudson. Tab. lxxxiii. fig. 5.

## GENUS XXVII. TURBO. WREATII-SHELL,

ANIMAL, a Slug.
APERTURE round, entire.

\* Allied to the genus Nerita; the columnar margin of the aperture even, imperforated.

Lin. Tr. viii. 158. t. 4. f. 7. Mont. Test. Br. 586. id. 1. jugosus. Sup. t. 20. f. 2.

\* T. a somewhat ovate ventricose shell; with four ridged volutions; diameter three eighths of an inch.

Isle of Purbeck, and in Cornwall.

Lin. Syst. 1232. No. 607. Lin. Tr. viii. 158. t. 4. f. 8, 2. LITTO-Gm. Lin. 3588. 9, 10, 11. REUS. List. Angl. tab. iii. fig. 9. Mont. Test. Br. 301. perriwinkle. Faun. Suec. No. 2169.

T. with five spires, the first ventricose, in younger subjects striated spirally; in the old smooth, and of a dusky color. Tab. lxxxiv. fig. 1.

Abundant on most rocks, far above low-water mark. The *Swedish* peasants believe, that when these shells creep high up the rocks, they indicate a storm from the south.

They are called *Perriwinkles*; are sold commonly in *London*, and eaten by the poor; as they are in most parts of the kingdom.

3. RUDIS. Lin. Tr. viii. 159. Mont. Test. Br. 304. t. 4. f. 12. 13.

\* T. with a subovate, rather obtuse shell; volutions tumid; diameter three quarters of an inch.

Found on the banks of the *Tamar*, in *Dorsetshire*, *Kent*, and *Caithness*.

4. CRASSIOR. Lin. Tr. viii. 159. Mont. Test. Br. 309. id. Sup. t. 20. f. 1.

\* T. with a conic rough shell, striated lengthways; the first volution somewhat ridged; length half an inch; breadth a quarter of an inch.

Sandwich and Biddeford bay.

Lin. Tr. viii. 160.

Mont. Test. Br. 303. id. Sup. t. 20. f. 4.

5. TENE-BROSUS.

\* T. with a subconic shell, rather obtuse, the first volution exceedingly tumid; diameter a quarter of an inch.

On rocks on the western coast.

Lin. Tr. viii. 160.

Mont. Test. Br. 403.

6. PETRÆUS.

\* T. with a conic pointed shell; aperture pearshaped; length three eighths of an inch; breadth two tenths of an inch.

Isle of Purbeck and coast of Devonshire.

Mont. Test. Br. Sup. 132. t. 30. f. 5.

7. CALATHIS-CUS.

\* T. with a brown conic shell, of six elegant longitudinally tuberculated volutions; aperture suborbicular; lip denticulated; length a quarter of an inch.

Shores of the isle of Jura.

Mont. Test. Br. Sup. 136.

8. SEMISTRI-

\* T. with a thick white conic shell, of five or six slightly rounded, but well defined and partially

striated volutions; length one eighth of an inch; minute.

South Devonshire coast; not common.

ZICZAC. Gm. Lin. 3587. Mont. Test. Br. Sup. 135.
 Lin. Tr. viii. 160. t. 4. f. 14.

\* T. with a somewhat conic, pointed, substriated shell; the first volution ridged at the base; length one inch; breadth half an inch.

Sunderland, in the county of Durham.

10. PULGI-DUS. Lin. Tr. viii. 161.

Mont. Test. Br. 332.

\* T. with a subconic smooth shell; three volutions, the first very large; point very small, obtuse; minute.

Cornwall and Pembrokeshire.

\*\* Solid, imperforated.

11. CIMEX.

Gm. Lin. 3589. Lin. Tr. viii. 161. Mont. Test. Br. 315.

\* T. an oblong-ovate shell;  $stri\alpha$  decussated with conspicuous dots; length one eighth of an inch; breadth one tenth of an inch.

Found on the coasts of Cornwall, Devonshire, Dorsetshire, and Kent; rare.

Gm. Lin. 3589. Lin. Tr. viii. 162. Mont. Test. Br. 319.

12. PULLUS.

\* T. with an ovate smooth imperforated shell; aperture lengthened forwards, according to Linnæus; Montagu says suborbicular. Length three eighths of an inch; breadth half an inch; inhabits the sea.

Devonshire, Cornwall, and Weymouth.

Lin. Tr. viii. 162.

Mont. Test. Br. 326. id. Sup. t. 21. f. 5. 13. SEMICOS-TATUS.

\* T. shell conic, short, with four or five rounded volutions, the first volution faintly ribbed towards the apex, at the base lightly striated across; very minute; inhabits the sea.

Found only by Mr. Montagu on the southern coast of Devonshire.

Lin. Tr. viii. 162.

Mont. Test. Br. 320.

4. RUBER.

\* T. shell with five smooth, glossy, rounded volutions; suture fine; apex pointed; aperture

suborbicular, a little reflected on the columellar pillar; minute; inhabits the sea.

Cornwall and Pembroke.

15. UNIFAS-CIATUS. Lin. Tr. viii. 163.

Mont. Test. Br. 327. id. Sup. t. 20. f. 6.

\* T. with a conic smooth shell and five rather plane fasciated volutions; minute; inhabits the sea.

Devonshire, Southampton, and Pembroke.

16. NIVOSUS.

Lin. Tr. viii. 163.

Mont. Test. Br. 326.

\* T. smooth subpyramidal shell, with five or six rounded volutions, point obtuse, pillar smooth; minute.

In sand on the south coast of Devonshire; rare.

17. LABIO-SUS. Lin. Tr. viii. 164. Helix labiosa. Mont. Test. Br. 400. t. 13. f. 7. Tr. albus. Br. Zool. iv.

T. with eight spires, striated transversely white. Tab. lxxxii. fig. 8.

Lin. Tr. viii. 164.

Mont. Test. Br. 318.

18. ULVÆ. ulva.

T. with four spires, the first ventricose; of a deep brown color; aperture oval. Size of a grain of wheat. Tab. lxxxix. fig. 7.

Inhabits the *Ulva Lactuca* on the shores of *Flintshire*.

Lin. Tr. viii. 164.

Mont. Test. Br. 317. t. 12. f. 13.

19. VENTRO-SUS.

\* T. a conic smooth shell, with six round volutions; aperture subovate; margin very entire; minute; inhabits the sea.

Not uncommon on the *Kent* and *Dorsetshire* coasts.

Lin. Tr. viii. 165.

Mont. Test. Br. 316.

20. SUBUM.
BILICATUS.

\* T. with a conic subumbilicated shell; volutions, four or five tumid; aperture perfectly oval; length one eighth of an inch; breadth one tenth of an inch.

Weymouth.

21. CINGIL- Lin. Tr. viii. 165.

Mont. Test. Br. 328. t. 12. f. 7. id. Sup. 125.

\* T. with a conic shell; six flattish faintly striated closely connected volutions; length a quarter of an inch; breadth one eighth of an inch.

Found abundantly at *Plymouth* and *Salcombe*.

22. INTER-RUPTUS. *Lin. Tr.* viii. 166.

Mont. Test. Br. 329. id. Sup. t. 20. f. 8.

\* T. with a conic pointed whitish shell; volutions flattish, marked with interrupted longitudinal ochraceous lines; minute; inhabits the sea.

Rarely found on the coasts of *Pembrokeshire* and *Devonshire*.

23. MAMMIL-LATUS. Lin. Tr. viii. 166.

Mont. Test. Br. Sup. 126.

\* T. with an imperforated subovate shell; volutions striated with raised dots, and somewhat angular with some longer striæ.

Scilly rocks.

\*\*\* Solid, umbilicus perforated.

Lin. Tr. viii. 166.

Mont. Test. Br. 308.

24. AURICU-LARIS.

\* T. smooth conic shell; volutions much rounded; aperture ear-shaped; length three eighths of an inch, breadth two eighths of an inch; inhabits the sea.

Discovered and found by Mr. Montagu at Southampton only; and there not common.

Lin. Tr. viii. 167.

Mont. Test. Br. 307. id. 25. VINCTUS. Sup. t. 20. f. 3.

\* T. a smooth conic shell; with six rounded volutions, and rather obtuse apex; length half an inch; inhabits the sea.

Salcombe bay, adhering to alga.

Lin. Tr. viii. 167.

Mont. Test. Br. 328. id. Sup. t. 20. f. 7. 26. QUADRI-FASCIATUS.

\* T. with a smooth subconic shell, the first volution somewhat ridged; pillars grooved, ending in an *umbilicus*; length a quarter of an inch; breadth one eighth of an inch; found on sea-weeds.

Falmouth.

 27. ELEGANS.
 List. Angl. tab. ii. fig. 5.
 Mont. Test. Br. 342. id. Sup.

 elegant.
 Gm. Lin. 3606.
 t. 22. f. 7.

 Lin. Tr. viii. 167.
 T. tumidus. Br. Zool. iv. 128.

T. with five tumid spires, the first ventricose, and all most elegantly striated; of a pale-red color.

A rare shell. Inhabits woods in *Cambridge-shire*, and some other counties in *England*. *Tab*. lxxxv. *fig*. 2.

28. FONTI- H. piscinalis and H. pusilla. Lin. Tr. viii. 168.

8. Mont. Test. Br. 348. id. Sup. fascicularis. 3641.

1. 22. f. 4.

\* T. with a subconic, umbilicated shell, volutions round smooth; diameter a quarter of an inch. Adhering to *Confervæ* in fresh waters.

29. NAUTI- Gm. Lin. 3612. H. nautileus. Mont. Test.

LEUS. Lin. Tr. viii. 169. Br. 464.

\* T. a flattish shell, volutions with raised annulations, and a spinal dorsal ridge; diameter one eighth of an inch.

Found in ponds and ditches.

Lin. Tr. viii, 169. 460. vign. 1. f. 78. id. Sup. 30. CRISTA-H. cristata. Mont. Test. Br. 147. TUS.

\* T. shell planish above, umbilicated beneath, with three or four round volutions; minute; inhabits fresh water.

In the river Avon in Wiltshire, and near Sandwich.

Lin. Tr. viii. 170. Mont. Test. Br. 439. t. 13. 31. DEPRESf. 5. SUS.

\* T. with a depressed shell, umbilicated beneath, four volutions, aperture orbicular; minute; inhabits the sea.

Found only by Mr. Montagu in Cornwall and Devonshire.

Gm. Lin. 3592. Mont. Test. Br. Sup. 137. 32. CALCAR. t. 29. f. 3.

\* T. with an unbilicated depressed shell, of a pale pink color, four volutions, the first furnished with about thirteen large erect processes; diameter one quarter of an inch.

Taken by Mr. Laskey in Jona.

## \*\*\*\* Cancellated.

33. CLATH-RUS. barred.

Lin. Syst. 1237. No. 631. Gm. Lin. 3603.

List. Conch. tab. 588. fig. 51. Lin. Tr. viii. 170.

Faun. Suec. No. 2170. Mont. Test. Br. 296. id. Sup.

T. with a taper shell of eight spires, distinguished by elevated divisions, running from the aperture to the apex. Tab. lxxxiv. fig. 2.

A. VAR.

Pellucid; ridges very thin. Tab. lxxxiv. fig. \*2.

These are analogous to that curious and expensive shell, the Wentle-trap.†

34. PARVUS.

Lin. Tr. viii. 171.

Mont. Test. Br. 310.

\* T. a pyramidal shell, with five or six volutions; ribs raised, distant ribs; minute; inhabits sandy shores.

† Mr. Montagu conjectures that the animal which inhabits this shell, might have contributed to supply the celebrated Tyrian dye, as a beautiful purple liquor can be obtained from it; but the color does not appear so permanent as that procured from the Buccinum Lapillus; the latter having been once fixed, is not affected by the application of acids, alkalis, or alkohol. See Montagu's Sup. to Test. Br. p. 104. and p. 120. Ep.

Gm. Lin. 3604. Lin. Tr. viii. 172. Mont. Test. Br. 306. t. 10. 35. STRIAf. 5.

TULUS.

\* T. with a pyramidal shell somewhat crossbarred or cancellated; volutions closely connected, intercepted by swelling belts; size of a grain of barley.

Falmouth, and on the southern coast of Devonshire; rare.

Lin. Tr. viii. 172.

Mont. Test. Br. 322. id. Sup. t. 21. f. 1.

36. RETICU-LATUS.

\* T. with a conic shell and tumid reticulated volutions; minute.

Pembrokeshire and Seasalter, Kent.

Lin. Tr. viii. 172.

Mont. Test. Br. 313. t. 15. f. 8. id. Sup. 124.

Z

37. BRYE-REUS.

\* T. shell pyramidal, with seven small volutions; contiguous ribs, and ovate aperture; length a quarter of an inch.

Discovered on the shore at Weymouth by Mr. Bryer.

38. CONI-FERUS. Lin. Tr. viii. 173.

Mont. Test. Br. 314 t. 15. f. 2.

\* T. with a pyramidal shell, and ribbed volutions, ribs contiguous, with a series of minute protuberances at the suture; length a quarter of an inch.

Discovered at Weymouth by Mr. Bryer.

39. DENTI-CULATUS. Lin. Tr. viii. 173.

Mont. Test. Br. 315.

\* T. with a conic shell, ribbed volutions; ribs oblique and minutely toothed at the suture; length a quarter of an inch, breadth scarcely one eighth of an inch; inhabits the sea.

Weymouth.

40. sTRIA-TUS. Lin. Tr. viii. 173.

Mont. Test. Br. 312.

\* T. with a somewhat pyramidal shell, striated volutions;  $stri\alpha$  transverse, regular, and very numerous; length one eighth of an inch; inhabits the sea.

On the Deconshire coast and Pembroke.

Lin. Tr. viii. 174.

Mont. Test. Br. 311. t. 10. f. 6.

41. COSTA-TUS.

43. NITIDIS.

\* T. with a subpyramidal shell, ribbed volutions, and the aperture grooved at the margin; length one eighth of an inch; inhabits the sea.

Found on the coasts of Pembrokeshire, Devonshire, Dorsetshire, Cornwall, and Kent.

Lin. Tr. viii. 174.

Mont. Test. Br. 299. t. 12. 42. UNICUS. f. 2.

\* T. with a pointed glossy shell, round striated volutions; length two tenths of an inch; inhabits the sea.

Sandwich.

\*\*\*\*\* Turrited, tapering to a point.

Lin. Tr. viii. 175.

Mont. Test. Br. 299. t. 12. f. 1.

\* T. with an acuminated very glossy shell, and nine somewhat globose volutions; length one eighth of an inch.

Discovered in sand from Falmouth by Mr. Montagu.

44. DUPLI-CATUS. doubled.

Lin. Syst. 1239. No. 645. List. Angl. tab. iii. fig. 7. Gm. Lin. 3607.

Lin. Tr. viii. 175.

T. with a strong taper shell, each spire marked with two prominent striæ. Has about twelve spires.

Found by Doctor Lister at Scarborough, who says it was five inches long. Tab. lxxxiv. fig. 3.

45. EXOLE-TUS.

Gm. Lin. 3607. Lin. Tr. viii. 176. T. cinctus. Mont. Test. Br. 295.

\* T. with a tapering shell, the volutions marked with two obtuse distant ridges; length two inches and an half.

Found on the *Lincolnshire* and *Lancashire* coasts, and at Sandwich.

46. TEREBRA. Lin. Syst. 1139. No. 645. Gm. Lin. 3608. Seb. Mus. iii. tab. lvi. fig. 40. List. Angl. tab. iii. fig. 8.

Faun. Suec. No. 2171. Lin. Tr. viii. 176. Mont. Test. Br. 293.

T. with a taper shell of twelve spires, spirally striated. Tab. lxxxiv. fig. 4.

Lin. Tr. viii. 177. Mont. Test. Br. 300. t. 10. 47. TRUNCAf. 7. Tus.

\* T. with a cylindric shell; volutions flattish; abrupt at the apex; length two tenths of an inch, breadth one tenth of an inch; inhabits the sea.

Southampton, Plymouth, Weymouth, and Poole.

Lin, Tr. viii. 178. Mont. Test. Br. 300. t. 10. 48. SUBTRUNf. 1. CATUS.

\* T.with a subcylindric shell, volutions roundish, diminishing in size towards the end; suture rather deep; length two tenths of an inch; inhabits the sea.

Salcombe bay and Southampton.

Lin. Syst. 1249. No. List. Conch. tab. 41. fig. 49. BIDENS. 649. Gm. Lin. 3609. maj. bident. Lin. Tr. viii. 178.

\* T. with a pellucid shell; volutions reversed; suture, somewhat crenated; a double tooth on the hind part of the aperture. Agrees

with the *T. nigricans* in the contrary turn of the spires, which are twelve in number, and of a dusky hue. *Tab.* lxxxiv. *fig.* 5.

On hollow and mossy trunks of trees.

50. LAMINA- Lin. Tr. viii. 179.

Mont. Test. Br. 359. t. 11. f. 4.

\* T. with a tapering, pellucid, smooth shell; ten volutions reversed; aperture contiguous; the hind part with two teeth; length three fourths of an inch, breadth one eighth of an inch; found on land.

Wiltshire, Kent, and Dorsetshire.

51. BIPLICA- Lin. Tr. viii. 186.

Mont. Test. Br. 361. t. 11. f. 5.

\* T. with a tapering shell, opaque, striated; volutions reversed; aperture less contiguous, and with two teeth on the hind part; length three fourths of an inch, breadth one eighth of an inch.

Easton Gray, Wiltshire: it has also been found in Hyde Park.

52. NIGRI-CANS.

dusky.

List. Angl. tab. ii. fig. 10. T. perversus. Br. Zool. iv. Lin. Tr. viii. 180. 130. T. bidens. Mont. Test. Br. 357. t. 11. f. 7.

T. with eleven spires of a dusky color. The mouth turned a contrary way to most others of the genus. Length four tenths of an inch; very taper.

Found in mosses, especially among the Hypna. Tab. lxxxv. fig. 3.

Lin. Tr. viii. 180. Mont. Test. Br. 362. t. 11. 53. LABIAf. 6. TUS.

\* T. with a tapering shell, opaque; volutions reversed, striated; aperture with two teeth, the margin white, strong, dilated; length five eighths of an inch, breadth one eighth of an inch.

Found in ozier grounds at Battersea.

Gm. Lin. 3609. Mont. Test. Br. 355. t. 11. 54. PERVER-Lin. Tr. viii. 181. f. 12. id. Sup. 131. Sus.

\* T. with a tapering, pellucid shell; eight volutions reversed; aperture without teeth; length a quarter of an inch.

Not common; but found in Wiltshire, Dorsetshire, Devonshire, and Cornwall.

55. TRIDENS. Gm. Lin. 3611. Lin. Tr. viii. 181. Mont. Test. Br. 338. t. 11. f. 2. id. Sup. 125.

\* T. with a subcylindric smooth shell; six or seven somewhat plane volutions; aperture with three teeth; length a quarter of an inch.

Found on water plants, by the river *Stour*, *Dorsetshire*.

56. juniperi. *Lin. Tr.* viii. 182.

Mont. Test. Br. 340. t. 12. f. 12.

\* T. with a subcylindric shell; obliquely striated volutions; aperture with seven teeth; length scarcely half an inch.

Found on the roots of juniper, in *Wiltshire* and *Dorsetshire*; rare.

57. MUSCO-RUM. Gm. Lin. 3611. Lin. Tr. viii. 182. Mont. Test. Br. 335. id. Sup. t. 22. f. 3.

\* T. with an ovate obtuse pellucid shell; six volutions inclined to one side; aperture plain

or without teeth; length one eighth of an inch.
Inhabits roots of trees, moss, &c. In most
parts of the kingdom.

Helix minuta. Gm. Lin. Mont. Test. Br. 337. t. 12. 58. SEXDEN-3660. f. 8. TATUS.
Lin. Tr. viii. 183.

\* T. with an ovate obtuse smooth shell; aperture with six teeth, and the lip impressed; minute; inhabits fresh water.

Kent, Cornwall, Devonshire, and Dorset-shire.

Helix Vertigo. Gm. Lin. Mont. Test. Br. 363. t. 12. 59. VERTIGO. 3664. f. 6. Lin. Tr. viii. 183.

\* T. an oval shell, with five round somewhat striated reversed volutions; aperture rather triangular, toothed; minute.

On walls covered with ivy.

Helix Carychium. Gm. Lin. Mont. Test. Br. 339. id. Sup. 60. CARY-3665. t. 22. f. 2. CHIUM.

\* T. with a somewhat conic smooth shell; aperture defended with two minute teeth, and

sometimes the rudiments of a third; the least of all land shells; found among decayed leaves and bark of trees.

Common in *Kent*; found also in *Wiltshire*, *Devonshire*, and *Dorsetshire*.

61. ALBULUS.

Lin. Tr. viii. 185. ib. iii. 66. t. 13. f. 17, 18.

\* T. shell with five longitudinally ribbed volutions; aperture somewhat orbicular; minute.

62. SCRIP-

Lin. Tr. viii. 185. ib. iii. 65. t. 13. f. 11, 12.

\* T. with a smooth shell, and three volutions marked with dusky lines, resembling letters; not unlike those of the genus *opography*; minute.

63. SUBAR-CUATUS. Lin. Tr. viii. 185. ib. iii. 66. t. 13. f. 27, 28.

\* T. with a shell of ten longitudinally ribbed volutions, and somewhat bent at the apex; color white; minute.

64. ADAMSII.

Lin. Tr. viii. 185. ib. iii. 66. t. 13. f. 31, 32.

\* T. a shell with six spirally striated volutions, ribs distant; aperture oval; minute.

Lin. Tr. viii. 185. ib. iii. 254.

65. DIVISUS.

\* T. a shell with four smooth and striated volutions, and an aperture somewhat oval; minute.

Lin. Tr. viii. 185. ib. v. β. t. 1. f. 18, 19.

66. SUBRU-

\* T. with a smooth shell, and five somewhat angular volutions; minute.

Lin. Tr. viii. 186.

67. RETIFOR-

\* T. a tumid shell, with four reticulated volutions, and somewhat oval aperture; minute.

Sandwich; rare.

Lin. Tr. viii. 186.

68. FUSCUS.

\* T. an opaque brown shell, with five striated volutions, and sub-oval aperture; minute; inhabits woods.

Bysingwood near Feversham; rare.

Lin. Tr. viii. 186.

69. STRIGA-

\* T. with an opaque white shell; three volutions, the first having three transverse stripes; aperture subovate; minute.

Seasalter; rare.

70. CARINA-TULUS. Lin. Tr. viii. 186.

\* T. with a tapering, opaque, white ridged shell, of seven volutions; aperture narrow and marginated; minute.

Sandwich; rare.

71. RIVULUS.

Lin. Tr. viii. 186.

\* T. with a striated shell, of four volutions, opaque and white; aperture marginated and oval; minute; inhabits fresh water.

Near Feversham; very rare.

72. SANDVI-CENSIS. Lin. Tr. viii. 187.

\* T. with a white pellucid shell, three reticulated volutions, and one toothed aperture; minute.

73. MARGI-NATUS. Mont. Test. Br. Sup. 128.

\* T. with a subcylindric white very strong shell; six or eight striated transversely ribbed volutions; aperture oval; length three eighths of an inch, breadth one fourth of its length.

From Guernsey.

Mont. Test. Br. Sup. 128.

74. DISJUNC-

\* T. shell slender, white, and smooth, umbilicated with six round volutions, separated by a deep flat line; aperture nearly orbicular; length scarcely a quarter of an inch.

Scottish coast.

Mont. Test. Br. Sup. 129.

75. INDIS-TINCTUS.

\* T. with a subcylindric glossy white shell, of five or six well defined and finely striated flattish volutions; aperture subovate; minute.

Mont. Test. Br. Sup. 129.

76. INSCULP-TUS.

\* T. with a taper, subumbilicated, subpellucid white shell, having five or six moderately convex striated volutions; apex obtuse; aperture subovate; pillar lip furnished with a small tooth; length one eighth of an inch, breadth one third of its length.

Devonshire coast; rare.

77. SIMILLI-MUS.\* Mont. Test. Br. Sup. 136.

T. shell slender, white, of eight or nine volutions, with fourteen direct elevated striæ; length three eighths of an inch.

Shores of the island of Jura.

\* So named from its resemblance to the Turbo elegantissimus of Mr. Montagu, the Helix elegantissimus of the Linnæan Transactions. H. D.

#### GENUS XXVIII. HELIX. SNAIL.

Animal, a Slug.
Shell spiral, sub-pellucid.
Aperture semi-lunar.

\* Wreaths acutely angular.

Lin. Syst. 1241. No. 656. Faun. Suec. No. 2174.

Gm. Lin. 3613. Lin. Tr. viii. 127. rock.

List. Angl. tab. ii. fig. 14. Mont. Test. Br. 435.

HE. with five spires, externally carinated or depressed to an edge. Umbilicated; of a deep brown color.

A land shell. Inhabits clefts of rocks. *Tab.* lxxxvi. *fig.* 1.

Lin. Tr. viii. 188. Mont. Test. Br. 438. t. 7. 2. Subcari-

\* HE. with an umbilicated, striated, rather convex shell, the volutions marked with three most delicate raised lines; diameter one tenth of an inch; inhabits the sea.

Coast of Kent and Devonshire.

Lin. Syst. 1242. No. 662. Faun. Suec. No. 2176. 3. PLANOR-BIS. Gm. Lin. 3617. flat. List. Angl. tab. ii. fig. 27. Gualtieri, tab. iv. fig. E. E.

Lin. Tr. viii. 188. t. 5. f. 13. H. complanata. Mont. Test. Br. 450.

HE. with a very flat brown shell, slightly carinated on the outside; aperture oblique. Inhabits ponds. Tab. lxxxvi. fig. 2.

4. PLANATA.

Lin. Tr. viii. 189.

\* HE. with a carinated, umbilicated plane shell, the carina or ridge on the middle of the volution; aperture nearly oval; diameter half an inch.

Lin. Syst. 1243. No. 667. Faun. Suec. No. 2178. 5. VORTEX. whirl. Gm. Lin. 3620. List. Angl. tal. ii. fig 28. Gualtieri, tab. iv. fig. G. G. List. Conch. tab. 138. fig. 43.

Lin. Tr. viii. 189. Mont. Test. Br. 454. id. Sup. t. 25. f. 3.

HE. with a very flat thin shell, and six small spires. The outmost carinated.

Found with the H. planorbis. Tab. lxxxvi. fig. 3.

# \*\* Wreaths rounded and umbilicated.

Lin. Syst. 1243. No. 671. Gm. Lin. 3623.

Gm. Lin. 3023. List. Angl. tab. ii. fig. 26. Gualtieri, tab. iv. D. D. Faun. Suec. 2179. Lin. Tr. viii. 190. Mont. Test. Br. 448.

6. CORNEA. horny.

HE. with four rounded spires; umbilicated; of a horny appearance.

Found in dull deep rivers, and in ponds. The largest of the *British* depressed species. *Tab.* lxxxvi. *fig.* 3. and *fig.* \*3. \*3. a young shell.

Gm. Lin. 3624. Lin. Tr. viii. 191. Mont. Test. Br. 455. id. Sup. t. 25. f. 2.

7. SPIROR-

\* HE. with a concave shell, both sides plane, whitish, and five round volutions; diameter three tenths of an inch; inhabits stagnant waters and rivulets.

Gm. Lin. 3624. Lin. Tr. viii. 191.

Mont. Test. Br. 457. id. Sup. 146. t. 25. f. 6.

8. CONTOR-

\* HE. with a subumbilicated shell, plane, equal on both sides, with pointed linear aperture; size of a cabbage seed; inhabits rivulets and ditches.

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9. ALBA.

Gm. Lin. 3625. Lin. Tr. viii. 192. Mont. Test. Br. 459. id. Sup. t. 25. f. 7.

\* HE. an umbilicated shell, both sides striated, with a wide aperture; diameter a quarter of an inch; found in rivers and ditches.

10. FONTA-

*Lin. Tr.* viii. 193.

Mont. Test. Br. 462. t. 6. f. 6. id. Sup. 146.

\* HE. with a flattish shell, bluntly carinated, on one side umbilicated, having three volutions, convex on both sides; aperture half ovate; diameter scarcely two tenths of an inch; inhabits fresh water.

11. PALU-DOSA. Lin. Tr. viii. 193.

Mont. Test. Br. 440.

\* HE. with an umbilicated shell, rather convex above; aperture nearly orbicular, margined, the margin reflected.

VAR. B.

Helix crenella. Mont. Test. Br. 441.

HE. with striated or annulated volutions. Found in lakes and banks of rivers.

Gm. Lin. 3632.

Mont. Test. Br. 437. id. Sup. 12. ERICETORUM.

Gualtieri, tab. iii. fig. Q.

Lin. Tr. viii. 194.

HE. with five spires rounded on the outside; thin, prettily fasciated along the spires with brown and white; deeply umbilicated.

Inhabits dry sandy banks. Tab. lxxxviii. fig. 5.

## Mont. Test. Br. Sup. 143.

13. MARGA-

\* HE. with an umbilicated shell, of four strong convex volutions; color white, with one faint rufous white band; aperture sub-truncated, sub-orbicular; inside beautifully nacred; minute.

Mont. Test. Br. Sup. 147. t. 21. f. 3.

14. SERPU=

\* HE. with a white, glossy, depressed, umbilicated shell, of three plain distinct volutions; aperture orbicular; minute.

15. CINGEN- Gualtieri, tab. 2. H? M

DA. Lin. Tr. viii. 195. t. 5.

zoned. f. 6. H

Mont. Test. Br. 418. id. Sup. t. 24. f. 4.
H. zonaria. Br. Zool. iv. 137.

HE. with five spires; the first very ventricose; slightly umbilicated; fasciated spirally with narrow stripes of white, dusky, and yellow.

Inhabits dry banks. Tab. lxxxviii. fig. 2.

16. VIR- H. media. Gm. Lin. 3640.

GATA. Lin. Tr. viii. 195.

Mont. Test. Br. 415. id. Sup.

148.

H. zonaria. var. Br. Zool. iv. 138.

\* HE. with a white convex umbilicated shell and brown stripe; aperture nearly orbicular; diameter half an inch. *Tab.* lxxxviii. *fig.* 3.

17. CAPE-RATA. Lin. Tr. viii. 196.

Mont. Test. Br. 430. t. 11. f. 11.

\* HE. with an umbilicated shell, somewhat ridged, flattish, striated, the end black; half an inch broad, and a quarter of an inch high.

Found in hedges.

H. turturum. Gm. Lin. 3639. Cochlea dilutè rufescens, aut subalbida, sinu ad umbilicum exiguo, circinato. List. Angl. tab. ii. fig. 12.

Lin. Tr. viii. 196.

Mont. Test. Br. 420. id. Sup.
t. 23. f. 2.

18. RUFES. CENS. mottled.

HE. with four spires, and minutely umbilicated; the exterior spire sub-carinated. Of a pale brownish red mottled with white.

Inhabits woods. Tab. lxxxviii. fig. 6.

Lin. Tr. viii. 197.

Mont. Test. Br. 422. id. Sup. 145. t. 23. f. 1.

19. CANTI-ANA.

\* HE. with an umbilicated shell, faintly striated, somewhat depressed; aperture nearly orbicular; breadth three fourths of an inch.

Found in meadows and hedges.

H. nitens. Gm. Lin. 3633? Cochlea terrestris umbilicata pellucida flavescens. Gualtieri, tal. ii. fig. G. H. nitens. Lin. Tr. viii. 198. 20. NITENS. t. 5. f. 7. pellucid.
H. lucida. Mont. Test. Br. 425. id. Sup. t. 23. f. 4.

HE. a very thin pellucid shell, of a yellowishgreen color; very brittle; with four spires, the first very tumid.

Found by me only once; in *Shropshire*. [Inhabits woods and mossy places; not uncommon. Ep.

21. HISPIDA. Gm. Lin. 3625. Lin. Tr. viii. 198. Mont. Test. Br. 423. id. Sup. t. 23. f. 3.

\* HE. with a convex umbilicated, hairy, diaphanous shell, having five volutions; aperture between orbicular and crescent shaped; diameter one fourth of an inch.

Found in moist meadows.

22. RADIATA. Helix rotundata. Gm. Lin. Mont. Test. Br. 432. id. Sup. 3633. t. 24. f. 3. Lin. Tr. viii. 199.

\* HE. with an umbilicated, subcarinated, flattish closely striated shell, convex beneath; diameter a quarter of an inch.

Found in gardens, hedges, decaying wood, &c.

23. UMBILI- Lin. Tr. viii. 200. CATA.

Mont. Test. Br. 434. t. 13. f. 2. id. Sup. 146.

\* HE. with a subconic, somewhat pellucid shell, striated with five round volutions, and large umbilicus; diameter one tenth of an inch; animal black.

Found under stones, &c.

Lin. Tr. viii. 200.

Mont. Test. Br. 427. t. 11. f. 9. id. Sup. 145.

24. TROCHI-FORMIS.

\* He. with a subumbilicated, subconic, smooth shell; aperture somewhat crescent-shaped, transversely compressed; diameter one eighth of an inch.

Found in decaying trunks of trees.

Helix aculeata. Gm. Lin. Mont. Test. Br. 429. t. 11. 25. SPINU-3638. f. 10. Losa. Losa.

\* HE. with a subconic umbilicated shell, having five convex volutions; girt with acute membranaceous ringlets; the back ridged with minute spines; aperture suborbicular; minute.

Found among mosses.

Lin. Tr. viii. 201. Mont. Test. Br. 428. t. 13. 26. LACUNA.

f. 6.

\* HE. shell subglobose and umbilicated, with smooth tumid volutions; pillar grooved; diameter a quarter of an inch; inhabits the sea.

27. POMATIA.
exotic.

Pomatia. Dioscor. lib. ii. c. 9.
p. 305. Gesner Aq. 655.
Lin. Syst. 1244. No. 677.
Gm. Lin. 3627.

List. Angl. tab. ii. fig. 1. Faun. Suec. No. 2183. Lin. Tr. viii. 201. Mont. Test. Br. 405.

HE. with five spires most remarkably ventricose; slightly umbilicated; fasciated with a lighter and deeper brown.

Inhabits the woods of the southern counties of *England*.

A naturalized species, introduced, as is said, by Sir *Kenelm Digby*; whether for medical purposes, or as a food, is uncertain. Tradition says, that to cure his beloved wife of a decay was the object.

They are quite confined to our southern counties. An attempt was made to bring them into *Northamptonshire*,\* but they would not live there.

These are used as a food in several parts of Europe during Lent; and are preserved in an escargatoire, or a large place boarded in, with the floor covered half a foot deep with herbs, in which the snails nestle and fatten.† They were also a favorite dish with the Romans, who had their cochlearia, a nursery similar to

<sup>\*</sup> Morton, 415.

<sup>+</sup> Addison's Travels, 272.

the above. Fulvius Hirpinus\* was the first inventor of this luxury, a little before the civil wars between Cæsar and Pompey. The snails were fed with bran, and sodden wine. If we could credit Varro,† they grew so large that the shells of some would hold ten quarts! People need not admire the temperance of the supper of the younger Pliny,‡ which consisted of only a lettuce apiece, three snails, two eggs, a barley cake, sweet wine, and snow, in case his snails bore any proportion in size to those of Hirpinus.

Its name is derived not from any thing relating to an orchard, but from  $\Pi \tilde{\omega} \mu \alpha$ , an operculum, it having a very strong one. This seems to be the species described by Pliny, lib. viii. c. 39, which he says was scarce; that it covered itself with the opercle, and lodged under ground; and that it was at first found only about the maritime Alps, and more lately near  $Velitral{e}$ . Tab. lxxxvii. fig. 1.

<sup>‡</sup> Epist. lib. i. Epist. xv.

28. ARBUS-TORUM. shrub. Lin. Syst. 1245. No. 680. Gm. Lin. 3630. List. Angl. tal. ii. fig. 4.

Faun. Suec. No. 2184. Lin. Tr. viii. 202. Mont. Test. Br. 413.

HE. with a glossy shell, brown, marked with a single black spiral *fascia*: the rim of the aperture reflects a little; sub-umbilicated. Varies with deeper and lighter colors.

Inhabits woods. Tab. lxxxviii. fig. 4.

29. RESUPI-

Lin. Tr. viii. 203.

\* HE. shell with a large oval aperture, having the volutions of the apex resupine; minute.

Found at Sandwich; very rare.

30. GLOBOSA.

Lin. Tr. viii, 203.

Mont. Test. Br. Sup. 147.\*

\* HE. with a smooth globular shell of two volutions; aperture orbicular; minute.

Found at Sandwich.

31. RETICU-LATA. Lin. Tr. viii. 203.

\* HE. with a subumbilicated shell of one volution; aperture round, marginated, beautifully reticulated; minute; extremely rare.

From Reculver.

\* Supposed by Mr. Montagu to be the fry of some other species, as well as the H. coarctata. Ed.

#### Lin. Tr. viii. 204.

32. UNISPI-RALIS.

\* HE with a shell of one volution, umbilicated on both sides; aperture round; minute.

Found near Sandwich.

#### Lin. Tr. viii. 204.

33. STRIATA.

\* HE. with a striated shell, aperture suboval, volutions supradorsal; minute.

Found near Sandwich.

Lin. Tr. viii. 204.

Mont. Test. Br. Sup. 147.

34. COARC-

\* HE. with a shell of two volutions; aperture roundish, contracted at the *umbilicus*; minute. Found near *Sandwich*.

Lin. Tr. viii. 204. ib. iii. 67. t. 13. f. 35, 36.

35. TUBU-

\* HE. with a shell of three longitudinally striated volutions: this singular shell, instead of an *umbilicus*, is perforated by a tube which appears above the surface; minute.

36. VARIE-

Lin. Tr. viii. 204. ib. iii. 67.

\* HE. with a smooth shell of four volutions, the first tumid, marked with red lines; minute.

37. FASCI-

Lin. Tr. viii. 205. ib. v. t. 1. f. 20, 21.

\* HE. with a smooth subumbilicated shell of three volutions, the first tumid, with a large aperture; minute.

38. NITIDIS-SIMA. Lin. Tr. viii. 205. ib. v. t. 1. f. 22-24.

\* HE. with a shell of two volutions, most delicately transversely striated; minute.

39. BICOLOR.

Lin. Tr. viii. 205. ib. v. t. 1. f. 25, 26, 27.

\* HE. with a smooth shell of two volutions, scarcely umbilicated; minute.

# \*\* Wreaths rounded, imperforated.

Lin. Syst. 1247. No. 690. Gm. Lin. 3646. List. Angl. tab. ii. fig. 18. Conch. tab. 126. fig. 26.

Faun. Suec. No. 2185. Lin. Tr. viii. 205. Mont. Test. Br. 386. id. Sup. 141.

40. VIVI-PARA. viviparous.

HE. with six ventricose spires, umbilicated. The aperture almost round. Color brown, with dusky spiral fasciæ.

Inhabits stagnant waters, and semi-stagnant Tab. lxxxvii. fig. 2. When young, Tab. lxxxviii. fig. 1.

Lin. Syst. 1247. Gm. Lin. List. Conch. tab. 57. Gualtieri, tab. i. fig. P. List. Angl tab. ii. fig. 3.

Lin. Tr. viii. 206. Mont. Test. Br. 411. H. hortensis 412.

41. NEMO-RALIS. variegated.

HE. with a glossy shell; very thin and pellucid; the aperture awry. Varies infinitely: often yellow, or light green, or red fasciated with black or white, along the spires; often quite plain.

Inhabits woods and gardens.

42. HORTEN- H. aspersa. Gm. Lin. 3631.

SIS. Garden.

Cochlea vulgaris major pulla maculata et fasciata hortensis. List. Angl. tab. ii. fig. 2.

Gualtieri, tab. i. fig. C.

Helix lucorum. Lin. Syst.
1247. No. 692.

List. Conch. tab. 49. fig. 47.

The common garden snail.

Lin. Tr. viii. 208.

H. aspera. Mont. Test. Br.

407.

HE. in form like the last, but lesser, and not umbilicated and clouded, or mottled with browns.

These are often used with success in consumptive cases. Tub. lxxxvii. fig. 3.

43. FUSCA.

Lin. Ir. viii. 209.

Mont. Test. Br. 424. t. 13. f. 1. id. Sup. 148.

\* HE. with a smooth diaphanous shell, having a lunated aperture, without an *umbilicus*; breadth three eighths of an inch, height one fourth of an inch.

\*\*\*\* Shell tapering.

44. ELEGAN-TISSIMA. Lin. Tr. viii. 209.

Mont. Test. Br. 298. t. 10. f. 2. id. Sup. 124.

\* HE. with a tapering slender shell, having from nine to thirteen volutions, obliquely sul-

cated; length a quarter of an inch; inhabits the sea.

Lin. Tr. viii. 209.

Mont. Test. Br. 399. t. 15.

45. DECUS-SATA.

\* HE. with a slender tapering shell, decussated; aperture angular at each end; eight or nine volutions; length three tenths of an inch, breadth one tenth of an inch; inhabits the sea.

Lin. Tr. viii. 210.

Mont. Test. Br. Sup. 142.

46. SUBU-LATA.

\* HE. with a slender tapering, very smooth shell, striped; aperture ovate; length three fourths of an inch. Western coast.

Turbo politus. Gm. Lin. 3612. Mont. Test. Br. 398. H. polita. Lin. Tr. viii. 210. T. lævis. Br. Zool. iv. 130.

47. POLITA.

\* HE. with a pyramidal glossy shell; with eight spires striated transversely; length about the third of an inch.

Found on the shores of Anglesey [and on the western coast.] Tab. lxxxii. fig. 1.

48. BIFAS- Lin. Tr. viii. 210. T. fasciatus. Br. Zool. iv. Mont. Test. Br. 346. id. 31. Sup. t. 22. f. 1.

\* HE. with a subumbilicated, pyramidal oblong rough shell; volutions roundish; aperture ovate; length one inch.

Wales and western coast. Tab. lxxxv. fig. 5.

49. остона. Gm. Lin. 3653. Mont. Test. Br. Sup. 144. Lin. Tr. viii. 211. t. 5. f. 10.

\* He. with a somewhat perforated, pyramidal shell of eight volutions; aperture roundish; size of a grain of rye.

Found in wet meadows; doubtful if an English species.

50. OCTAN- Lin. Tr. viii. 211. H. octona. Br. Zool. iv. Mont. Test. Br. 396. t. 11. 138. f. 8. id. Sup. 144.

\* HE. with an imperforated, pyramidal substriated shell, having eight volutions; aperture ovate; length five eighths of an inch, breadth two eighths of an inch.

Rarely found in stagnant waters in *Cornwall* and *Dorsetshire*. Tab. lxxxix. fig. 5.

Lin. Tr. viii. 212.

Mont. Test. Br. 394. t. f. 3.

51. LACK-HAMENSIS.

\* HE. with an ovate oblong subperforate shell; aperture lunated, roundish; margin reflected; length five eighths of an inch, breadth one quarter of an inch.

Found only in Lackham woods, and Bow-wood, Wiltshire.

Gm. Lin. 3661. Mont. Test. Br. 391. id. Lin. Tr. viii. 212. t. 5. Sup. 146. t. 22. f. 5. f. 11.

52. OBSCU-RA.

\* HE. with an opaque, brown, horn-colored shell, subperforate, ovate oblong; volutions from five to seven, somewhat wrinkled; aperture lunated, roundish, white; length three eighths of an inch, breadth exceeding one eighth.

Found on trunks of trees.

Gm. Lin. 3661. Mont. Test. Br. 390. Sup. 53. LUBRICA.
Lin. Tr. viii. 213. t. 5. t. 22. f. 6. smooth.

\* HE. with an imperforate, subpyramidal shell, with five or six somewhat convex volutions; minute.

Inhabits moist woods. Tab. lxxxv. fig. 4. vol. iv.

54. VITREA. Lin. Tr. viii. 213.

Mont. Test. Br. 321. t. 12. f. 3.

\* HE. with a somewhat cylindric shell of four rounded volutions; aperture suboval, contracted towards the end; columella visible to the extremity; length one eighth of an inch.

55. PUNC-TURA. Lin. Tr. viii. 214.

Turbo punctura. *Mont. Test.* Br. 320. t. 12. f. 5.

\* HE. with a conic shell, of six globose reticulated volutions; aperture suborbicular; length one eighth of an inch, breadth a thirtieth of an inch. Inhabits the sea on the coast of *Devon* and *Cornwall*.

56. ARENA- Lin. Tr. viii. 214. ib. iii. 66. T. decussatus. Mont. Test. t. 13. f. 33, 34.? Br. 322. t. 12. f. 4.

\* HE. with a conic shell, of five rounded decussated volutions; minute.

Found on the coast of Devonshire.

# \*\*\*\*\* Ovated, imperforated.

Lin. Syst. 1249. No. 703. Faun. Suec. No. 2188. Gm. Lin. 3657. List. Angl. tab. ii. fig. 21.

Conch. tab. 123. fig. 21.

Lin. Tr. viii. 214. Mont. Test. Br. 367. t. 16. .f. 8.

57. STAG-NALIS. lake.

HE. with six spires; the first very large and ventricose, and the last quite pointed. Very brittle. Length two inches one eighth.

Inhabits still waters; is, with others of the kind, the food of trouts. Tab. lxxxix. fig. 1.

Gm. Lin. 3658. Lin. Tr. viii. 215. Mont. Test. Br. 369. t. 16. f.7.

58. FRAGI-LIS.

\* HE. with round, pellucid, imperforate, ovatosubulate shell; aperture ovate oblong.

Found in fresh waters.

59. PALUS- Lin. Tr. viii. 216. t. 5. f. 8. H. stagnalis. B. Br. Zool. iv.
 TRIS. Mont. Test. Br. 373. t. 16.
 f. 10. id. Sup. 138.

\* HE. with an oblong shell; volutions somewhat rounded; aperture ovate; most delicately striated spirally and transversely; length one inch, breadth three eighths of an inch.

Found in ditches and rivulets. *Tab.* lxxxix. *fig.* 2.

60. POSSA- Lin. Tr. viii. 217. t. 5. Mont. Test. Br. 372. t. 16. f. 9.

\* He. with a subovate shell, having five or six rounded volutions; suture conspicuous; aperture ovate; delicately pellucid; it greatly resembles the *H. palustris*, but is not striated, and is inferior in size; length three eighths of an inch, breadth one eighth.

Found in ditches.

61. DETRITA. Lin. Tr. viii. 217. Mont. Test. Br. 384. t. 11. f. 1.

\* He. with a conic shell, white, with transverse brown lines; aperture ovate; length three quarters of an inch, breadth three eighths of an inch. Inhabits stagnant waters.

mud.

Lin. Tr. viii. 218. 376. t. 16. f. 4. id. Sup. 62. SUCCI-NEA. H. putris. Mont. Test. Br. 139.

\* HE. with an oblong, tawny, diaphanous shell, of three volutions; aperture ovate; length three quarters of an inch, breadth scarcely half an inch.

Found in wet meadows.

Lin. Syst. 1249. No. 705. Faun. Suec. No. 2189. 63. PUTRIS. Gm. Lin. 3659. Lin. Tr. viii. 219. List. Angl. tab. ii. fig. 24. H. peregra. Mont. Test. Conch. tab. 123. fig. 23. Br. 373. t. 16. f. 3.

HE. with the first spire vastly large and tumid; the two others very small.

Inhabits ponds, &c. Tab. lxxxix. fig. 3.

Faun. Suec. No. 2191. Lin. Syst. 1249. No. 707. 64. TENTA« CULATA. Gm. Lin. 3662. Lin. Tr. viii. 220. olive. List. Angl. tab. ii. fig. 19. Mont. Test. Br. 389. Conch. tab. 132. fig. 32.

HE. of an oval sub-conic form, with five spires. Clouded with brown.

Inhabits ponds. Tab. lxxxix. fig. 6.

65. CANALIS.

Lin. Tr. viii. 220.

Mont. Test. Br. 309. t. 12. f. 11.

\* HE. with a conic shell, of five roundish smooth volutions; columella grooved; length three eighths of an inch, breadth two eighths. Inhabits the sea.

66. AURICU-LARIA. ear.

Lin. Syst. 1250. No. 708. Faun. Succ. No. 2192. Gm. Lin. 3662.

Lin. Tr. viii, 221. List. Angl. tab. ii. fig. 23. Mont. Test. Br. 375. t. 16. Conch. tab. 123- fig. 22. f. 2.

HE. with a very ventricose first spire, sub-umbilicated; the last forms a minute apex: color yellow; very brittle.

Inhabits ponds. Tab. lxxxix. fig. 4.

Lin. Tr. viii. 222. 67. LUTEA.

Mont. Test. Br. 380. t. 16. f. 6.

\* HE. with a suboval imperforate shell; aperture wide, oval; length half an inch, breadth a quarter. Inhabits the sea.

Gm. Lin. 3659. Lin. Tr. viii. 222. Mont. Test. Br. 379. t. 16. f. 5. id. Sup. 139.

68. GLUTI-NOSA.

\* HE. with a very tumid diaphanous shell; aperture obtuse, very wide; length half an inch, breadth three eighths of an inch.

Not uncommon in the marshes near Deal.

Lin. Syst. 1250. No. 709. Gm. Lin. 3663.

Lin. Tr. viii. 222. Mont. Test. Br. 382.

69. LÆVI-GATA. smoothed.

HE. with only two spires; the first very ventricose; the other very minute, and placed laterally; of a pale-red color; pellucid.

Inhabits ponds. Tab. lxxxix. fig. 8.

#### Lin. Tr. viii. 223.

70. BUL-LOIDES.

\* He. with a smooth, brittle ovate shell, of a shining horny color; volutions reversed; spire short.

#### GENUS XXIX. NERITA. NERITE.

Animal, a Slug.
Shell gibbous, flattish at bottom.
Aperture semi-orbicular.

1. GLAU-CINA. livid. Lin. Syst. 1251. No. 716. Gm. Lin. 3671.

List. Angl. tab. iii. fig. 10.

Faun. Suec. No. 2197. Lin. Tr. viii. 224.

Mont. Test. Br. 469.

N. with five spires, umbilicated; of a livid color; the spires marked with short brown stripes; but it varies in colors. *Tab.* xc. *fig.* 1.

2. CANRENA.

Gm. Lin. 3669. Lin. Tr. viii. 223.

Mont. Test. Br. Sup. 148.

\* N. with an umbilicated smooth shell; spire somewhat mucronated, with a gibbous bifid *umbilicus*. Inhabits the sea.

Gm. Lin. 3672. Lin. Tr. viii. 225. N. nitida. Mont. Test. Br. Sup. 149. 3. MAMMIL-LA.

\* N. with an umbilicated ovate smooth shell; umbilicus covered; aperture ovate; size of the end of a thumb.

Coast of Caithness.

Lin. Syst. 1253. No. 723. Gm. Lin. 3676. List. Angl. tab. ii. fig. 20. Conch! tab. 141. fig. 38. Faun. Suec. No. 2194. Lin. Tr. viii. 225. Mont. Test. Br. 470.

4. FLUVIA-TILIS. river.

N. with only two spires; brittle, dusky, marked with white spots; not half the size of a pea.

Inhabits still rivers and standing waters. Tab. xc. fig. 2.

Lin. Tr. viii. 226.

Mont. Test. Br. 468.

5. PALLI-DULA.

\* N. with an umbilicated smooth shell; umbilicus deep, and lengthened; size of a pea.

Kentish, Western coast and Shetland.

6. LITTO-RALIS. strand. Lin. Syst. 1253. No. 725. Gm. Lin. 3677. List. Angl. tab. iii. fig. 11, 12, 13. Conch. tab. 607. fig. 39,

&c.

Faun. Suec. No. 2195. Lin. Tr. viii. 226. t. 5. f. 15. Mont. Test. Br. 467.

N. with a thick shell, with four spires; generally of a fine yellow; varies greatly into other colors; size of a horse-bean.

Common at the sea-rocks. Tab. xc. fig. 3.

7. PELLU-CIDA. Lin. Tr. viii. 227.

\* N. with a smooth pellucid shell, of three volutions; minute. Inhabits the sea.

8. ALBA.

Lin. Tr. viii. 227.

\* N. with a smooth pellucid shell, of two volutions; minute; inhabits the sea.

This and the preceding are perhaps different appearances of N. glaucina.

Mont. Test. Br. Sup. 150. t. 29. f. 5.

9. TUBERO-SISSIMA.

\* N. with a white pellucid shell, having three or four volutions; on the body whirl are four elevations broken into tubercles; upper volutions very small; apex minute; umbilicus large; diameter one eighth of an inch.

Inhabits the Frith of Forth.

Mont. Test. Br. Sup. 150. t. 30. f. 3.

10. RUPA.

\* N. with a glossy smooth purplish shell; round the top of the volutions a white band, and on the body whirl two others; diameter more than half an inch.

Mem. Wern. Soc. 409.

11. LÆVIDA.

\* N. a new shell, it bears some resemblance to N. glaucina, but differs in having a more produced apex, and wanting the markings of that shell.

Found near Dunbar.

#### GENUS XXX. HALIOTIS.

Animal, a Slug.

Shell of the shape of a human ear, with a row of orifices along the disk.

Spire near one end turned in.

1. TUBER-CULATA. tuberculated. Lin. Syst. 1256. Gm. Lin. 3687.

List. Conch. tab. 611.

List. Angl. tab. iii. fig. 16. Lin. Tr. viii. 227.

Mont. Test. Br. 473.

H. with a rough shell, the inside like mother-of-pearl.

Inhabits the sea near *Guernsey*; also frequently cast up on the southern shores of *Devonshire*. When living adheres to rocks.

This was the λεπας αγγια, the wild limpet, and βαλλάπτιον οῦς, the sea ear, of Aristotle.\*

Tab. xci.

<sup>\*</sup> Hist. An. lib. iv. c. 4.

\*\* Without a regular spire.

### GENUS XXXI. PATELLA. LIMPET.

ANIMAL, a Slug. SHELL sub-conic.

\* Labiated, or furnished with an internal lip.

Gm. Lin. 3692. Lin. Tr. viii. 128. Mont. Test. Br. 489.

1. CHINEN-SIS.

- \* P. with a smooth, entire, subconic shell; inside glossy white, furnished with a sub-spiral columella; length to two inches and a half, breadth two inches; generally found adhering to oysters.
  - \*\* Base dentated, or margin angular.

Lin. Syst. 1258. No. 758. Gm. Lin. 3697. List. Angl. tab. v. fig. 40. Faun. Suec. No. 2199. Lin. Tr. viii. 229. Mont. Test. Br. 475.

2. VULGATA. common.

P. with rough prominent striæ, and sharply crenated edges; vertex pretty near the centre;

the edges often in old subjects are almost smooth. Tab. xcii. fig. 1.

(VAR. A.) List. Conch. tab. 538. fig. Patella depressa. Br. Zool. iv. inf.

P. much depressed; the vortex approximating nearly to one edge. More oblong than the former. *Tab.* xcii. *fig.* 1.\*

\*\*\* Pointed with the vertex bent.

3. MITRULA. Gm. L

Gm. Lin. 3709. Lin. Tr. viii. 230. P. antiquata. Mont. Test. Br. 485. t. 13. f. 9.

\* P. with an entire, subconic, imbricated shell, top recurved; diameter half an inch. Found at Weymouth.

4. UNGA-RICA. bonnet. Lin. Syst. 1259. No. 761. Gm. Lin. 3709. Gualtieri, tab. ix. fig. vv.

Lin. Tr. viii. 230. Mont. Test. Br. 486.

P. with a white acuminated striated shell, the top turning down like a *Phrygian* bonnet. *Tab.* xciii. *fig.* 1.

Lin. Tr. viii. 231.

Mont. Test. Br. 488. t. 13. f. 11.

5. MILITA-RIS.

\* P. with an entire conic pointed, striated shell; the top spirally revoluted, but inclined to one side; size of an hemp seed.

Found at Weymouth, and in Cornwall.

Lin. Tr. viii. 231.?

Patella vertice intorto, &c. Gualtieri, tab. ix. fig. 10.

6. INTORTA. inclining.

P. with an elevated shell, slightly striated; the vertex bending, but not hooked.

Inhabits Anglesey. Found on the shores. Tab. xciii. fig. 2.

Lin. Syst. 1260. No. 769. Gm. Lin. 3710. List. Angl. tab. ii. fig. 32.

Conch. tab. 141. fig. 39.

Faun. Suec. No. 2200. Lin. Tr. viii. 232. P. fluviatilis. Mont. Test. Br. 482.

7. LACUS-TRIS. lake.

P. with a shell almost membranaceous; the top reclined.

Inhabits fresh waters.

8. OBLONGA. Lin. Tr. viii. 233.

P. lacustris. Mont. Test. Br. 484.

\* P. with a perfectly entire, oblong compressed membranaceous shell; the top sharp-pointed, obliquely reflected; minute.

Found in ditches and small rivers in aquatic plants.

9. PELLU-CIDA. transparent. Lin. Syst. 1260. No. 770. Gm. Lin. 3717. List. Conch. tab. 543. fig. Lin. Tr. viii. 233. Mont. Test. Br. 477.

P. with a pellucid shell, marked longitudinally with rows of rich blue spots; the vertex placed near one edge.

Inhabits the sea-rocks of Cornwall. Tab. xciii. fig. 4.

(A.) LÆVIS. smooth.

Patella Limpet. Gm. Lin. 3697.?

Patella lævis fusca. List.

Conch. tab. 542. fig. 26.
P. pellucida Testa senior.
Lin. Tr. viii. 234,

P. with a smooth and glossy shell, somewhat depressed; more obtuse and decorticated; the apex inclining.

Found on the shores near Bamff. Tab. xciii. fig. \*4.

Gm. Lin. 3711. Lin. Tr. viii. 234. Mont. Test. Br. 480. P. parva. id. Sup. 154.

10. VIRGI-NEA.

\* P. with a perfectly entire substriated shell, of a shape between oblong and orbicular; the point of the top near the margin; length three eighths of an inch, breadth two eighths. Adheres to rocks on the southern coast.

Lin. Tr. viii. 235.

Mont. Test. Br. 432. t. 13. 11. BIMACUf. 8. id. Sup. 153.

LATA.

\* P. with an oval, convex, flattish shell, of a yellow color, and having a black spot at each end; the top perforated; minute.

Found in the sea in the west of *England*.

Lin. Syst. 1261. No. 778. Gm. Lin. 3728. List. Conch. tab. 543. fig. 28.

Lin. Tr. viii. 235. Mont. Test. Br. 490.

12. FISSURA. slit.

P. with a white shell, of an elevated form, vertex inclining; elegantly striated and reticulated. Has a remarkable slit in front.

Inhabits the seas of the west of England. Tab. xciii. fig. 3.

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13. GRÆCA. striated.

Lin. Syst. 1262. No. 780. Gm. Lin. 3728. List. Conch. tab. 527. fig. 2. Lin. Tr. viii. 236.

P. with an oblong shell, perforated vertex, striated roughly to the edges.

Inhabits the west of England. Tab. xcii. fig. 3.

14. APER= TURA. Lin. Tr. viii. 236.

Mont. Test. Br. 491. t. 13. f. 10. id. Sup. 155.

\* P. with a somewhat conic shell, ribbed lengthways; top perforated, bent; minute.

Found in the sand near Falmouth, and at Salcombe bay, Devonshire.

This genus was called by the Greeks  $\lambda \epsilon \pi \alpha s$ , and is mentioned by Aristotle and Athenœus;\* who acquaint us, that it was used for the table; and also inform us of its nature of adhering to rocks. Aristophanes, with much humour, speaks of an old woman who stuck as close to a young fellow, as a Lepas to a rock. Linnœus has adopted the Latin name of Patella, a sort of dish; and has applied it (as some other modern writers have before) to this genus.

<sup>\*</sup> Aristot. Hist. An. lib. iv. c. 4. Athenœus, lib. iii. p. 85.

### GENUS XXXII. DENTALIUM.

Animal, a Terebella. SHELL slender, tubiform, mostly pervious.

Lin. Syst. 1263. No. 786. Faun. Suec. No. 2201. Gm. Lin. 3736.

Lin. Tr. viii. 237.

1. ENTALIS. common.

List. Conch. tab. 547. fig. 2. Mont. Test. Br. 494.

D. with a slender shell, a little bending; pervious; length near an inch and a half. Inhabits most of our seas. Tab. xciii. fig. 5.

Gm. Lin. 3736. Lin. Tr. viii. 237. D. striatum. Mont. Test. Br. 2. DENTALIS. 495. id. Sup. 156.

\* D. with a white tubular shell, having a few faint annulets at the larger end, and twenty striæ, rather bent, interrupted; length half an inch; inhabits the sea on the western coast.

3. STRIATU- Gm. Lin. 3738. Lum. Lin. Tr. viii. 238. Mont. Test. Br. Sup. 155.

\* D. with an acuminated shell, of eight angles, and eight *striæ* of a green color with a white point.

Found on the coast of Cornwall.

4. GADUS. Lin. Tr. viii. 238.

Mont. Test. Br. 496. t. 14. f. 7.

\* D. with a very smooth shell, somewhat bent, and contracted towards the aperture; length scarcely three eighths of an inch, greatest breadth one tenth of an inch. Inhabits the ocean, and is called by mariners *Hake's Tooth*.

5. IMPERFO-RATUM. Lin. Tr. viii. 238. Mont. Test. Br. 496.

\* D. with a cylindric shell, somewhat bent, transversely striated, abrupt, and imperforate at the apex; minute. Inhabits the sea.

Lin. Tr. viii. 239. Mont. Test. Br. 497. t. 14. 6. TRACHEA. f. 10.

\* D. with a bent round shell; striæ very numerous, annular, closely set; apex abrupt, imperforate; minute. Inhabits the sea.

Lin. Tr. viii. 239.

Mont. Test. Br. 497.

7. GLABRUM.

\* D. with white, smooth, bent, cylindric shell, and imperforate; very minute.

Found on the northern coast of Devonshire.

### GENUS XXXIII. SERPULA. WORM-SHELL.

Animal, (generally) a *Terebella*.

Shell tubular, adhering to other bodies.

# \* Spiral.

1. SPIROR-BIS. spiral. Lin. Syst. 1264. No. 794. Gm. Lin. 3740. Faun. Suec. No. 2204. Lin. Tr. viii. 241. Mont. Test. Br. 498.

S. with a shell spiral or wreathed, like the *cornu* ammonis; very small; adhering to shells, *crustacea*, and algæ. Tab. xciv. fig. 1.

2. SPIRIL-LUM. Gm. Lin. 3740. Lin. Tr. viii. 240. Mont. Test. Br. 499.

\* S. with a pellucid, uniform, spiral, orbiculate shell; volutions round, gradually decreasing in size.

S. sinistrosa. Mont. Test. Br. 504.

VAR. B.

In this variety the volutions are reversed; minute.

Found in the sea on Zoophytes.

Lin. Tr. viii. 241.

Mont. Test. Br. 505.

3. MINUTA.

\* S. with an uniform, spiral, orbiculate shell; volutions round, reversed; very minute.

Found on the sea adhering to Zoophytes.

Gm. Lin. 3741. Lin. Tr. viii. 241. Mont. Test. Br. 500.

4. GRANU-LATA.

\* S. with a round spiral shell, glomerated, and having three raised ridges on the upper side; minute. Adheres to stones and sea shells.

Lin. Tr. viii. 242.

Mont. Test. Br. 503.

5. HETERO-STROPHA.

\* S. with a round spiral shell, and having two or three sulcated reversed volutions.

Found on shells and slaty rocks in the sea.

6. CARINATA.

Lin. Tr. viii. 242.

Mont. Test. Br. 502.

\* S. with an uniform spiral shell; the exterior volution ridged above; minute.

Found adhering to shells in the sea.

7. CORRU-GATA. Lin. Tr. viii. 242.

Mont. Test. Br. 502.

\* S. with an uniform spiral shell, transversely wrinkled, umbilicated; diameter one eighth of an inch. Inhabits rocks in the sea.

8. CORNEA.

*Lin. Tr.* viii. 243.

Mont. Test. Br. 503.

\* S. with an uniform, round, pellucid shell, of three volutions, shell horn-colored; is it a distinct species? Inhabits the sea.

9. LUCIDA.

S. vitrea. *Gm. Lin.* 3746. *Lin. Tr.* viii. 243.

Mont. Test. Br. 506.

S. with a round spiral very smooth and glossy shell, volutions reversed; very minute. Inhabits the sea; on *Zoophytes*.

Lin. Syst. 1265. No. 795. Gm. Lin. 3740. Faun. Suec. No. 2206. Lin. Tr. viii. 244.

Mont. Test. Br. 511.

10. TRIQUE-TRA. angular.

S. with a triangular shell, irregularly twisted.

Adheres to (in a creeping form) stones and other substances.

\*\* Irregularly twined.

Lin. Syst. 1267. No. 805. Gm. Lin. 3743.

Ellis Coral. tab. xxxvi. fig.

Lin. Tr. viii. 243. Mont. Test. Br. 509.

11. VERMI-CULARIS. worm.

S. with a slender, incurvated, taper, and roundfed shell.

According to Mr. Ellis, inhabits all our coasts.

Lin. Tr. viii. 243.

Mont. Test. Br. 508.

12. REVERSA.

\* S. with a subcylindric, wrinkled, spiral, irregular shell; aperture reversed. Inhabits the sea upon crabs; a distinct species?

13. TUBU-LARIA. Lin. Tr. viii. 244.

Mont. Test. Br. 513. id. Sup. 71.

\* S. with a round subulate shell, fixed by the smaller end, somewhat convolute.

Found on shells in the sea.

\*\*\* Not attached to other bodies.

A. somewhat twined.

14. SEMINU-LUM. Gm. Lin. 3739. Lin. Tr. viii. 245. Vermiculum intortum. Mont. Test. Br. 520.

\* S. with an uniform, oval, unfixed, smooth shell; diameter one tenth of an inch. Inhabits the sea; very common.

15. SUBRO-TUNDA. Lin. Tr. viii. 245.

Mont. Test. Br. 521.

\* S. with a roundish shell; back raised.

16. OBLONGA. Lin

Lin. Tr. viii. 245. Vermiculum oblongum. Mont. Test. Br. 522. t. 14. f. 9.

\* S. with an oblong, oval, somewhat compressed shell, with a single longitudinal suture on one side; very minute. Inhabits the sea.

Lin. Tr. viii. 246. perforatum. Mont. Test. 17. BICOR-Vermiculum bicorne, et V. Br. 519. NIS.

\* S. with a two-horned, ventricose shell; very minute; inhabits the sea. It is doubted whether the three last serpulæ are not varieties.

Lin. Tr. viii. 246. Vermiculum incurvatum. 18. INCUR-Mont. Test. Br. 518. VATA.

\* S. with a shell bent at the hinder extremity into three contiguous volutions.

Vermiculum pervium. Mont. Test. Br. 508.

VAR. B.

This variety has but one volution; inhabits the sea; rare.

# B. Bottle-shaped.

Lin. Tr. viii. 246. Vermiculum lacteum. Mont. 19. LACTEA.

Test. Br. 522.

\* S. with an oval, thin, pellucid, somewhat compressed shell, and milky veins; minute. Inhabits the sea.

20. MARGI- Lin. Tr. viii. 247.

Vermiculum marginatum.

Mont. Test. Br. 524.

\* S. with a white, pellucid, smooth, compressed shell, marginated with scarcely any neck; minute. Inhabits the sea.

21. GLOBOSA. Lin. Tr. viii. 247.

Vermiculum globosum.

Mont. Test. Br. 523.

\* S. with a white, pellucid, smooth, globose shell, having scarcely any neck; minute. Inhabits the sea.

22. LÆVIS. Lin. Tr. viii. 247.

Vermiculum læve. Mont. Test. Br. 524.

\* S. an oblong smooth shell, with a longish neck; minute. Inhabits the sea. Perhaps a variation of the last?

23. SQUA-MOSA. Lin. Tr. viii. 247.

Mont. Test. Br. 526. t. 14. f. 2.

\* S. with a somewhat globose, scaly, white shell, and scarcely any neck; minute. Inhabits the sea.

Lin. Tr. viii. 248. Vermiculum perlucidum. Mont. Test. Br. 525. t. 14. 24. PERLUf. 3. CIDA.

\* S. with a smooth white shell, of six equidistant longitudinal ribs; neck long; subcylindric; minute. Inhabits the sea.

Lin. Tr. viii. 248.

Vermiculum striatum. Mont. 25. STRIATA. Test. Br. 523.

\* S. with a white pellucid shell, of many longitudinal *striæ*, neck long; minute. Inhabits the sea.

Lin. Tr. viii. 248.

Vermiculum retortum. Mont. 26. RETORTA. Test. Br. 524.

\* S. with a white, opaque, round, marginated shell; neck placed obliquely; minute. Inhabits the sea.

Lin. Tr. viii. 248.

Vermiculum urnæ. Mont. 27. URNÆ. Test. Br. 525. t. 14. f. 1.

\* S. with an urn-shaped, white, smooth, semipellucid shell; apex conic; minute. Inhabits the sea. 28. CONCA-MERATA. Mont. Test. Br. Sup. 160.

\*S. with a white, depressed, sub-pellucid, suborbicular shell; of three irregular volutions, and numerous dissimilar concamerations; minute; rare.

Taken up by the Amphitrite ventilabrum in the formation of its tube,

### GENUS XXXIV. TEREDO. PIERCER.

Animal, unknown.

Shell slender, bending.

Valves, two, testaceous, hemispherical, covering the head; two lanceolate, near the tail.

Lin. Syst. 1267. No. 807. Gm. Lin. 3747.

Lin. Tr. viii. 249. Mont. Test. Br. 527.

1. NAVALIS. ship.

Faun. Suec. No. 2087.

Justly called by Linnæus, calamitas navium. Was imported from the Indies. Penetrates into the stoutest oak plank, and effects their destruction.

## GENUS XXXV. SABELLA. CONCRETE-SHELL.

Animal various, Nereis, Amphitrite, &c.

Covering tubular, fabricated with sand and broken shells, coherent by a glutinous cement.

1. RUDIS. coarse.

Lin. Syst. 1268. No. 811. Terebella conchilega. Gm. Lin. 3113.

9. fig. 4.S. conchilega. Mont. Test.

Br. 547.

S. with a single case formed of larger fragments of shells, with little or no sand.

Found near Weymouth, lodged in the shell of a bivalve. The animal is represented magnified in Tab. xxviii. marked A. A.

2. ALVEO-LATA. honey-comb. Lin. Syst. 1268. No. 812. Ellis Conch. tab. xxxvi. p. Gm. Lin. 3749. 90.

S. with numerous tubes placed parallel, with the orifices open, forming in the mass the appearance of the surface of honey-combs: composed chiefly of sand, with very minute fragments of shells. The tubes sometimes above three inches long.

Found on the western coasts of Anglesey; near Criccaeth, Caernarvonshire; and near Yarmouth. It covers the rocks for a considerable space, near low-water mark. Tab. xcv. fig. 1.

Lin. Syst. 1269.
Amphitrite ventilabrum.
Gm. Lin. 3111.

Mont. Test. Br. 541.

Pallas Misc. Zool. t. 10.
f. 1.

3. PENICIL-LUS.

\* S. shell membranaceous, erect, rooted; with a long slender tube, tapering to the lower extremity; diameter at the top a quarter of an inch; length six or seven inches. Animal, the Amphitrite ventilabrum, p. 90.

Lin. Syst. 1268. Mont. Test. Br. 544. Pallas Misc. Zool. t. 9. 4. GRANU. f. 3, 2.? LATA.

\* S. with a single shell, not attached to any thing, simply bent, composed of brown grains of sand; length two or more inches; diameter at the largest end, three eighths of an inch. Animal, an *Amphitrite*.

5. CHRYSO- Gm. Lin. 3749. f. 14, 15, 16.

Pallas Misc. Zool. t. 9. Mont. Test. Br. 546.

\* S. with a cylindrical membranaceous tube, about the size of a goose quill, covered with sand and particles of broken shells; the mouth furnished with long fibres, composed of the same materials; length about six inches.

Found on the sea shore, sunk in the sand above low-water mark. Animal, a *Terebella*.

6. LUMBRI-CALIS. Gm. Lin. 3752.?

Mont. Test. Br. 549.

\* S. a strong tube, composed chiefly of coarse sand, firmly cemented together and attached to stones, shells, &c. in a creeping manner; the strongest of the genus; length two or three inches; diameter one quarter of an inch. Animal, a *Terebella*.

Common on all our shores.

7. CIRRATA.

Gm. Lin. 3112.

Mont. Test. Br. 350.

\* S. with a thick fragile tube, a little tapering, composed of sand and clay, readily falling to pieces when dry; length six or seven inches; diameter half an inch.

Found in muddy bottoms above low-water mark. Animal, a *Terebella*.

#### Mont. Test. Br. 552.

8. ARENARIA.

\* S. with a cylindric tube, extremely brittle, composed of fine sand; length from one to two inches, and about the size of a raven's quill. Animal unknown.

#### Mont. Test. Br. 552.

9. SUBCY-LINDRICA.

\* S. with a slender, fragile, subcylindric tube, composed of fine sand, and minute particles of shells, cemented together on a fine membrane; length from one to three inches; diameter not above one tenth of an inch. Animal unknown.

## Mont. Test. Br. 553.

10. SETIFOR-

\* S. with a slender tube, tapering at the smaller end to one half of the larger end, composed of particles of shells and stones, placed in an imbricated manner; length three or four inches; size double that of an hog's bristle. Animal unknown.

11. CURTA.

Mont. Test. Br. 554.

\* S. with a tube composed of particles of sand and stone, sometimes of the finest sand alone, on a tough membrane, somewhat tapering; length scarcely one inch; size that of a crow quil. Animal, a *Terebella*.

Covers the whole surface of the shore in the inlet near Kingsbridge, Devonshire.

12. TUBI-FORMIS tule. S. Belgica. *Gm. Lin.* 3749. Amphitrite auricoma. *ib.* 3111. Nereis cylindracea belgica. Pallas Misc. Zool. 117. tab.
 ix. fig. 1—13.
 S. granulata. Lin. Syst. 1268.
 Mont. Test. Br. 544.

S. with a case of a taper strait form; made up of minute particles of sand, most elegantly put together.

Its animal described at p. 91.

Common on all our sandy shores. Tab. xcv. jig. 2.

13. COM-FRESSA. Mont. Test. Br. 555.

\* S. with a broad and extremely flat tube, composed of large fragments of bivalve shells, chiefly of the *Pecten*; length about an inch and a half,

breadth three eighths of an inch. Animal unknown.

Inhabits deep waters.\*

\* The editor perfectly coincides in the opinion entertained by the authors of the *Testacea Britannica*, and recently adopted by Mr. *Montagu*, " of the impropriety of classing these heterogeneous tribes with the *testacea*;" but as no other place has been assigned them in the system, he has left the genus *Sabella* where it was placed by *Linnœus* and Mr. *Pennant*. Ed.



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THE END.

#### TABLE OF ERRATA.-VOL. IV.

Page 64. 1. 4, for "Armicole," read "Arnicole."

138, l. 2, for "Lucullus," r. "Lentulus,"

187. l. 23, for "former," r. "the third species."

311. l. 18, after "Battersea," add "Tab. Ixxxii. fig. 8."

320. bottom line, for "Fig. 3," r. "Fig. 4."

359. 1. 8, for "on the sea," r. " in the sea."

The reader is requested to substitute the following description of the *Turbo labiosus* for that given in page 298.

\* T. with a subconic shell; volutions flattish, with numerous (15 or 16) distinct plaits or ribs; length three tenths of an inch, breadth two tenths.

Inhabits the sea. Tab. lxxxii. fig. 4.

And in the references, to read "T," for "Tr," and place the mark of interrogation after T. albus.

Errata in the Inscriptions and References engraved on the following Plates in Vols. III. and IV.

#### VOL. III.

Plate 32, for Serdid, read Sordid.

46, for Dorce, read Dorce. 53, for Scald Back, read Scald Fish.

77, for Greg Musiet, read Grey Mullet. 85, Cornish Trawl Net and Trawl Boat, (to face page 521,) is omitted in the List prefixed to the Volume,

#### VOL. IV.

Plate 2, No. 2, for (P. 2.), read (P. 6).

3, for crawed, read clawed. 5, for angelar, read angular.

5, for angelar, read angular.
6, for grub, read great.
9, No. 2, for (Var. 4.) read (Var. A).
10, No. 2, for Union, read Uneven.
12, for (P. 24.), read (P. 22).
15, for Pleted, read Plated.
21, No. 1, for (P. 20.), read (P. 50).
3, for (P. 7.), read (P. 70).
22, A. B. Tentacula.
C. C. The lungs.
D. The shield.
E. E. The reflexible membranes which conceal and protect the lungs when the animal is at rest. the lungs when the animal is at rest.

23, No. 2, for Wart, read Warty. 25, for aculected, read aculeated.

27, for Nerces, read Nercis; and add 1, 2, 3. 28, dele A before Terebella; substitute A A for 2 and 4; and for onchelega, read Conchilega.

29, dele 43. 32, for Hesped, read Hispid. 33, add (P. 129).

35, for Peetinated, read Pectinated; and add (P. 134).

39, No. 2. for (P. 145.), read (P. 143). 41, for stricted, read striated.

54, for Chiene, read Chione. 58, dele the four references, 45, 51, 51 A, and 46, and substitute to No. 1 (P. 198), No. 2 (P. 199), No. 3 (P. 209), No. 4 (P. 213),

No. 1 (P. 198), No. 2 (P. 199), No. 3 (P. 209), No. 4 (P. 213), No. 5 (P. 212).

59, dele the three references, 49, 50, and 56, and substitute to No. 1 (P. 209), No. 2 (P. 205), No. 3 (P. 206).

62, for Scollop, read Scallop.

affix A. to the left of the lower figure; and for (P. 255), read (P. 225).

73, for Common Dipper, read Common Gowrie.

74, for Dippep, read Dipper.
75, No. 1, for (P. 287), read (P. 267); and add \* to the upper figure 2.
77, for (P. 282), read (P. 272).

77, for (P. 282), reau (P. 212).
80, dele 96.
82, No. 1, Polished Snail (P. 335); 2, Ribbed Murex (P. 281);
3, Shortened Murex (P. 286); 4, White Wreath (P. 298);
5, Bamffian Murex (P. 284); 6, Spot Whelk (P. 273);
7, Various Colored Murex (P. 280); 8, Lipped Wreath (P. 311); 9, Bilineated Whelk (P. 271).
84, To No. 2 on the left add \*; and for Anger, read Auger.
89, dele A and B attached to No. 2.
92, No. 3, for (P. 350), read (P. 354).

3



LONG HORNED CR (P 5) MINUTE CR



4



BROADFOOT CR. (P. 5)



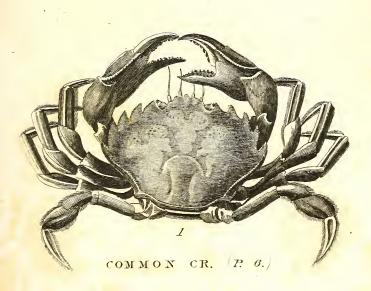


PEA CR. (P. 3)

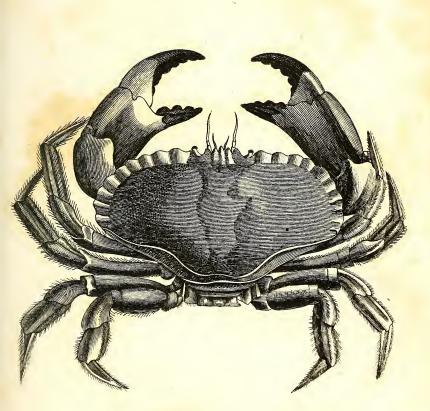




CLEANSER CR. (P. 2.





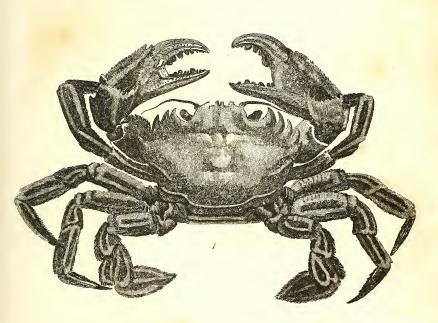


BLACK CRAWED CR. (P.7)





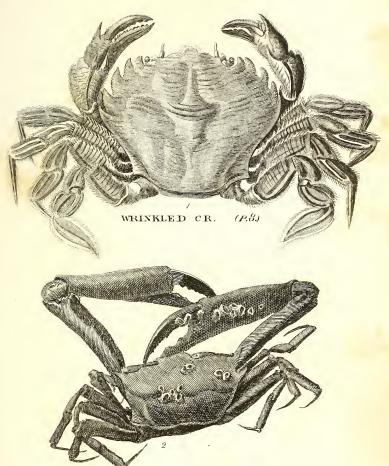
CLEANSER CR. VAR. (P. 6)



VELVET CR.  $(P.\theta)$ 



CRAB.

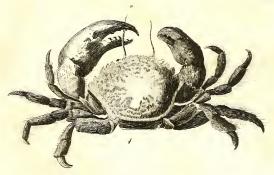


ANGELAR CR. (P. 8)



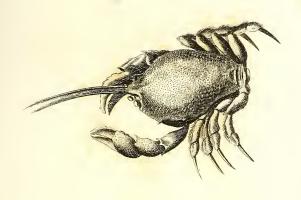


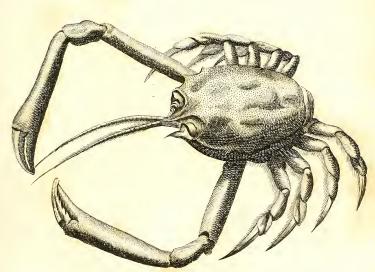
GRUB CLAWED CR. (Pg)



BRISTIY CR P. 9.







LONG CLAWED CR M & F (P 9)







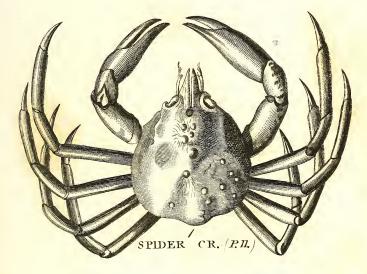


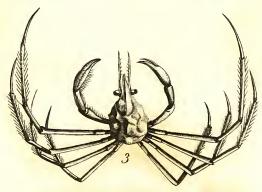
(P. 10.) SPINOUS CR.





SPIDER CR. VAR. 4.





SLENDER LEGGED CR. /P. II.

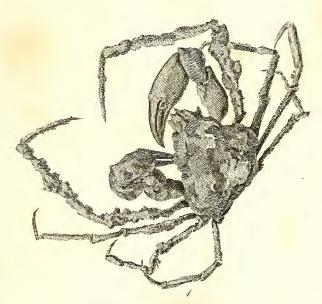




UNION CR. (P. 12)

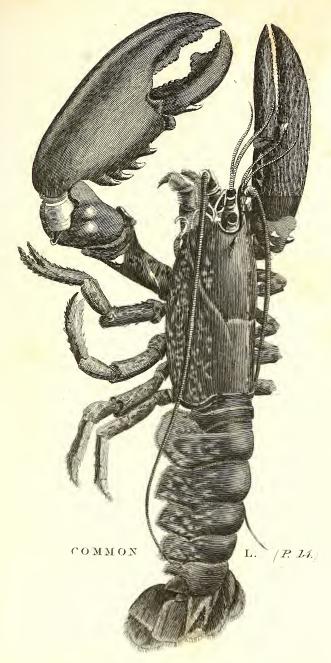


ROUGH CR. (P. 18.)

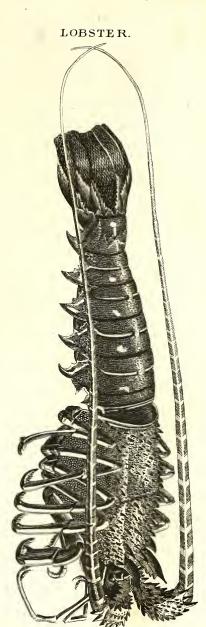


WEYMOUTH CR. (P. 12)





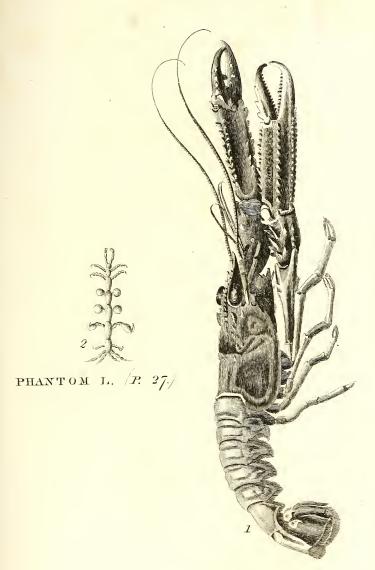




SPINY L (P. 24)

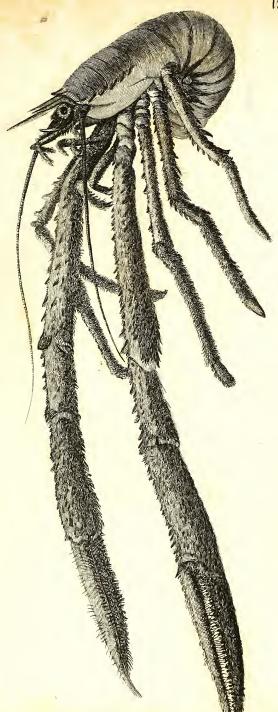


## LOBSTER.



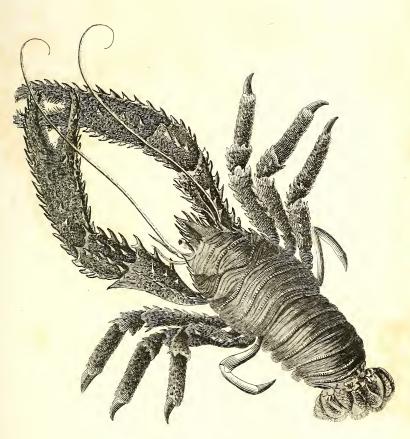
NORWAY L. P. 23.





LONG CLAWED LOBSTER P. 23

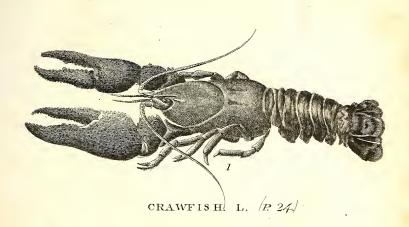


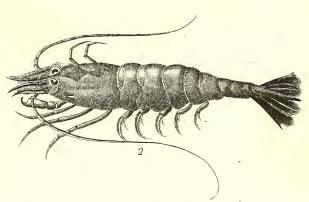


PLETED LOBSTER (P. 24)



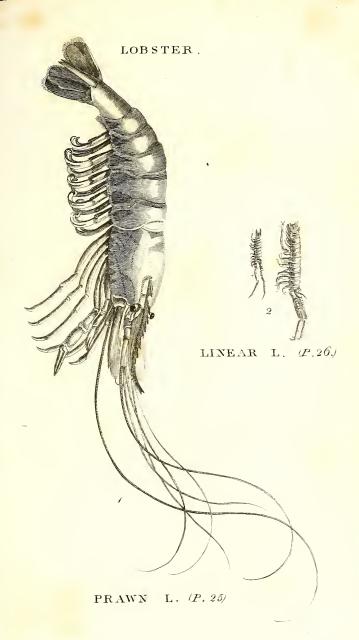
LOBSTER.



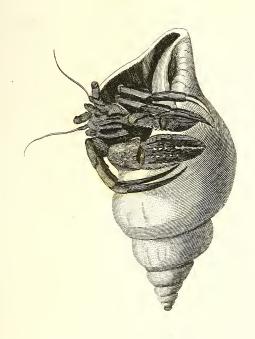


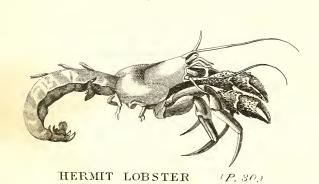
SHRIMP. L. P. 26.











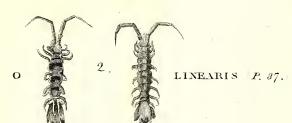




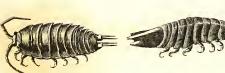
PHALANGIUM



BALÆ NÆ P. 43.



3. MARINUS P.38.



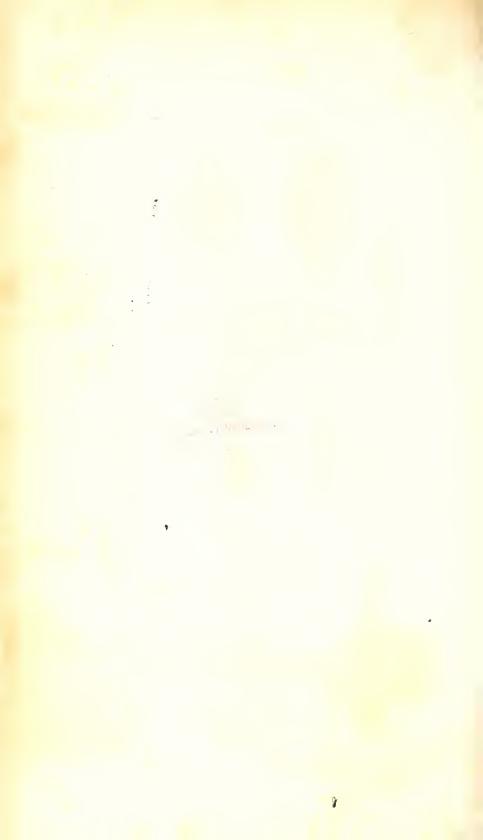
o oceanicus o entomon o oestrum (P. 38)



5. P. 38 4



6. P. 38 .

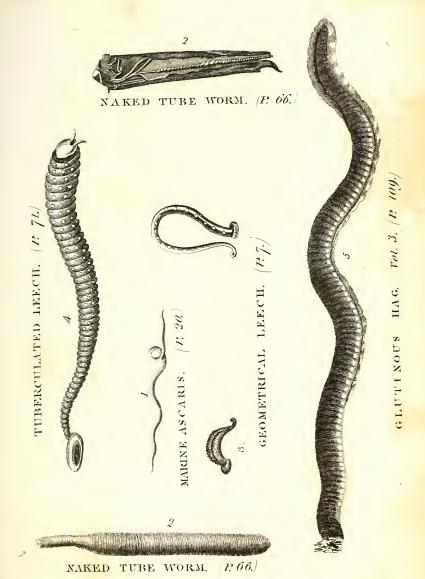


EARTH DEW-WORM. (P. 63.

LUG DEW-WORM. (P. 67.)

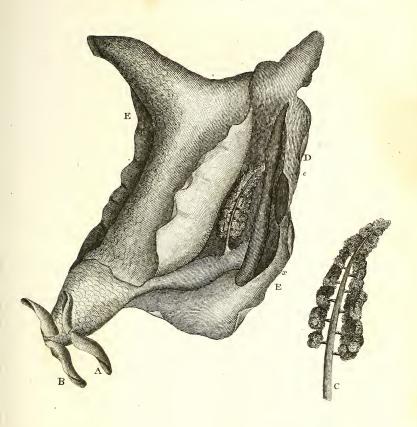
LESSER DEW-WORM, (P. 63)







## TAWNY APIYSIA (P79)











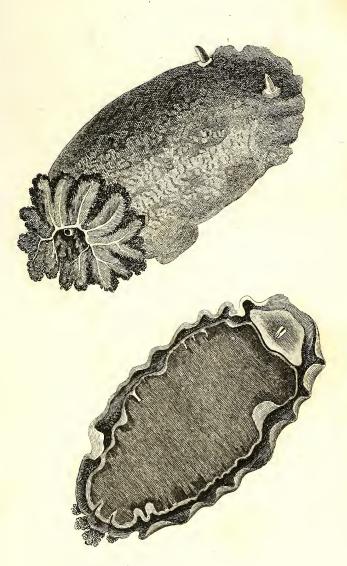




WART DORIS (P.82)

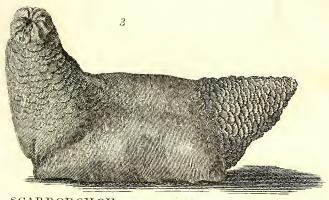


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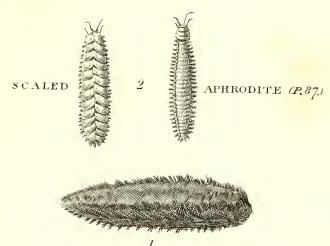
LEMON DORIS (P.82)





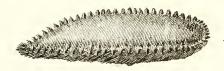
SCARBORGHGH

ASCIDIA (P. 99.)



ACULECTED

APHRODITE (P. 86.)



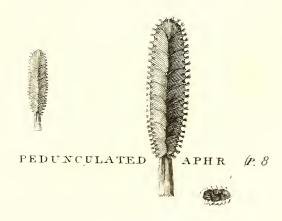




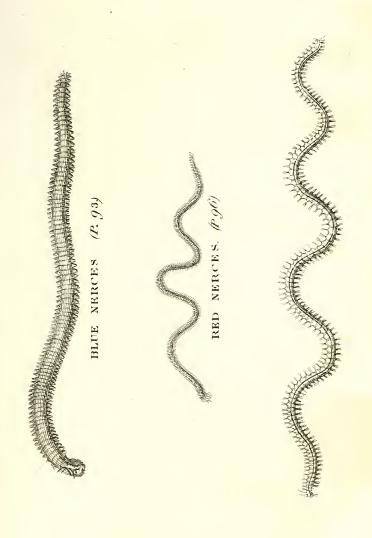
AMBER DORIS (P. 83)



LITTLE APHRODITE (P. 87)

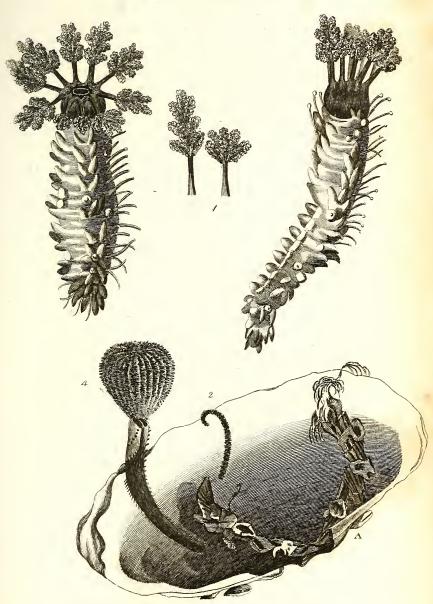






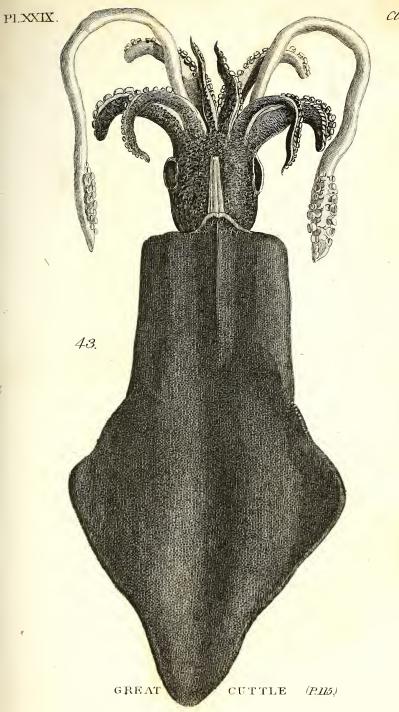


## FIVE ROWED HOLOTHURIA (P.108)

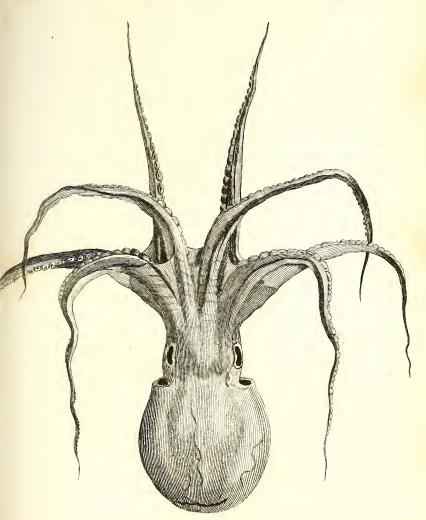


A TEREBELLA ONCHELEGA . (P.112)





VIV = V.1



EIGHT ARMED CUTTLE. /P. 116./



PLXXXI. Vol4 CLVI.

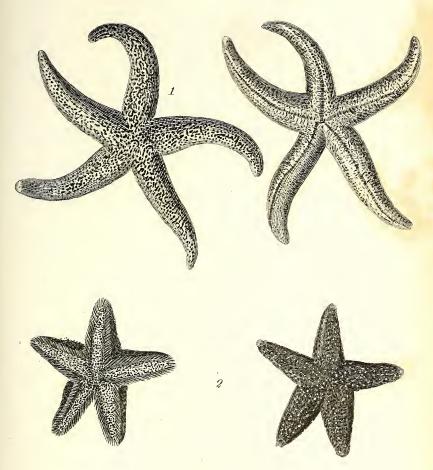




MIDDLE CUTTLE (P. 116.)

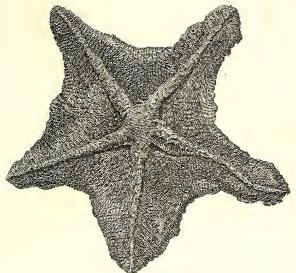


DOTTED SEA STAR. (P. 128)

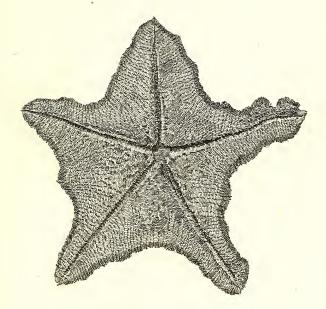


HESPED SEA STAR (P.128)

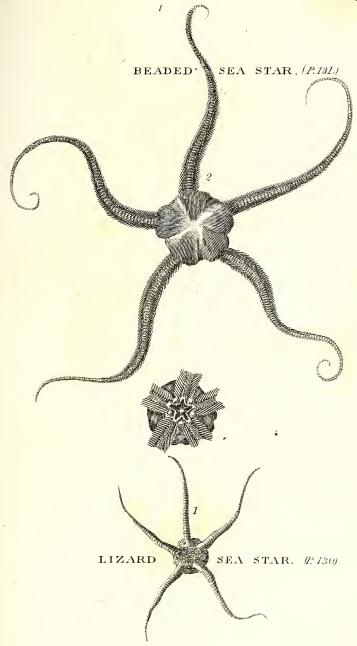




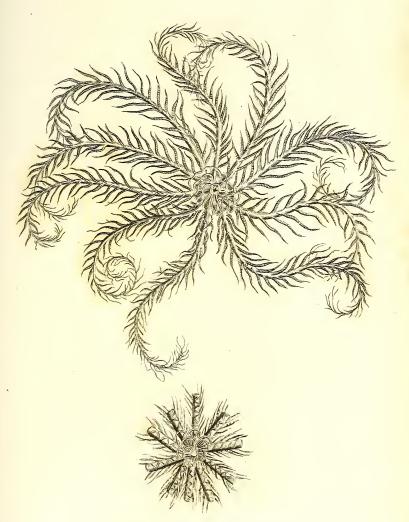
FLAT SEA - STAR.







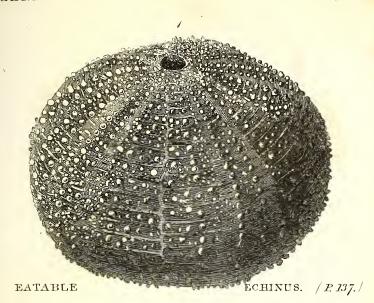


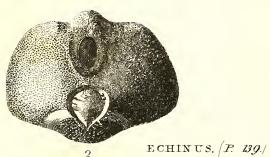


PEETINATED SEA STAR.

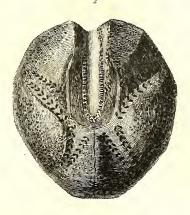
INSTRUCT LLL

Vol. 1. Cl. VI.



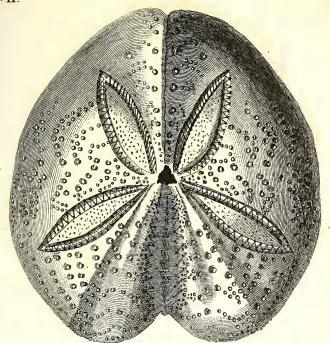


OVAL



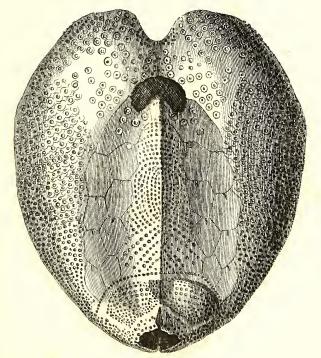


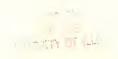
PLXXXVII.



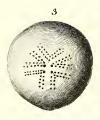
PURPLE

ECHINUS (P.131)



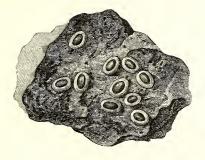






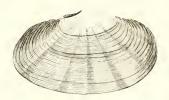


ECHINUS PULVINULUS (P.140)



LEPAS CONVEXULA (P.150)



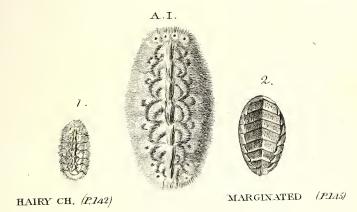


VARIABLE RAZOR SHELL (F.174)
(Perfect)



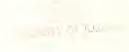
## Pl.XXXIX

Vol.4. Test.



CHITON.







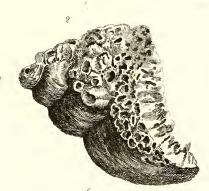
ACORN SHELL.



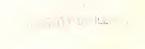
CORNISH A. (P. 147)

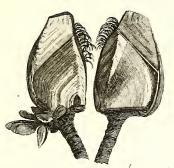


ELONGATED A. (P149)



SULCATED A. (P147)





DUCK LEPAS (P.152)

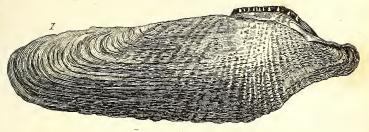




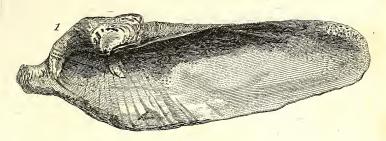


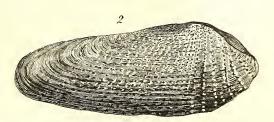
The Ha

## PHOLAS



DACTYLE PH. (P.156)





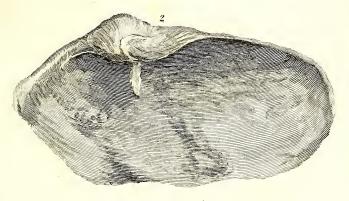
WHITE PH. (P. 156)

1. Enviry Of Henry.

VOL.4 Tall.



LITTLE PHOLAS (P.137)



CURLED PH. (P. 157)





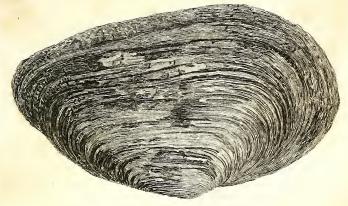


ABRUPT MYA.(P.159)

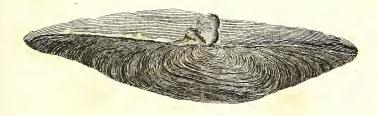
TO The last the

PLXLV.

VOL. 4. Teel.



SAND MYA (P.161.)

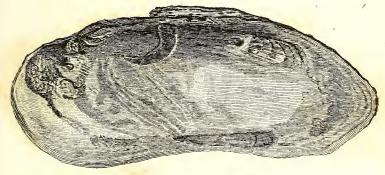


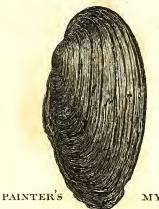
MARINETTY OF BELLIACIO





PEARL MYA. (P.163.)







(P.162.)

EN TART OF HIT MVERSITY OF ILLINOIS

vol.4. Test.

Pl.XLVII.



DUBIOUS MYA (P.165)





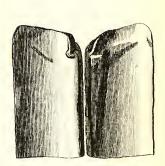
SOLEN.



KIDNEY R. (P.174.)









SHEATH RAZOR SHELL (P.171)





VARIABLE RAZOR SHELL (Worn P.174)





DELICATE MYA (P 160)



RAYED TELLINA (P.177)



vol.4. Test.





PLAIN TELLINA (P.180)



FLAT TELL. (P.182.)



VOL.4. Test.



HORNY TELLINA (P.184)



SOLID TELL.(P.184)



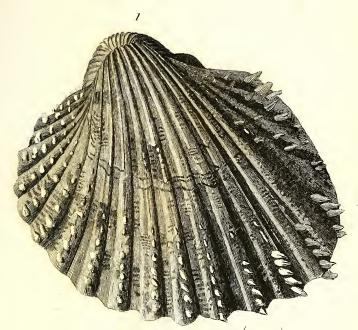


SIMPLETON MACTRA (P.193)

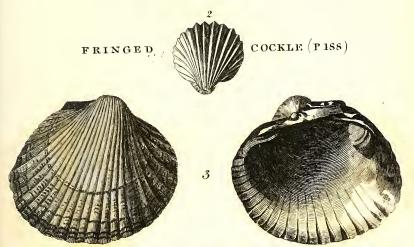


SOLID TELL. VAR. (P.184)





ACULEATED COCKLE (P. 187)



EDIBLE COCKLE (P. 189)

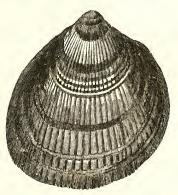


STRONG MACTRA (P. 193)



CHIENE VENUS (P. 206)





SMOOTH COCKLE (P. 188)



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THE I THE





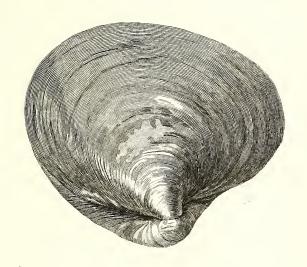
5 7 1 2 4



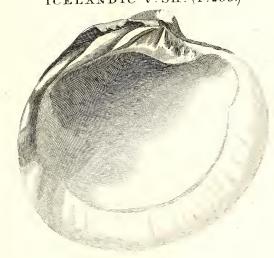
. . 7



VENUS SHELL.



ICELANDIC V. SH. (P. 205.)

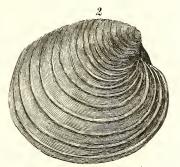




VENUS-SHELL.



ANTIQUATED V. SH. VAR. (P. 209)



CASINA V. SH. (P.202)



WARTY V. SH. (P.201)



## DONAX.

Z YELLOW 45. DONAX



3 WAVED VENUS

51.

5 MAIDEN V.



4 INDENTED V.





2 PURPLE DONAX



46.



## VENUS.SHELL

*56.* OVAL V.SH.



ANTIQUATED V.SH.

WRINKLED V.SH.





VOL.4 Test.

VENUS SHELL



GOLDEN V. SH. (P. 212)



DECUSSATED V. SH. (P. 210)

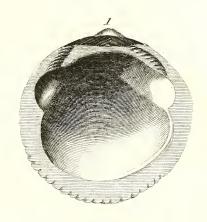


FADING V. SH. (P. 207)





ORBICULAR ARCA (P. 217)



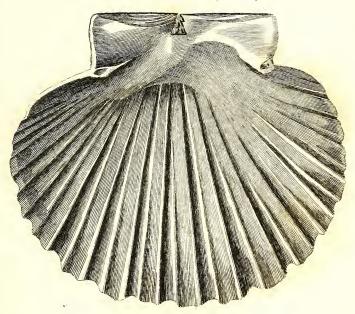


FRINGED ARCA (P. 210)



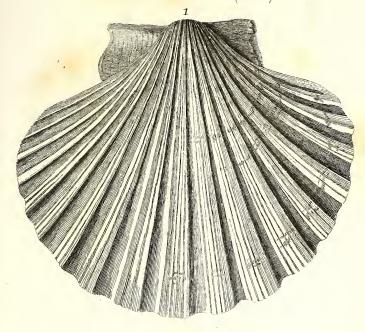


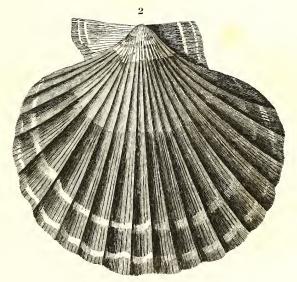
GREAT SCOLLOP (P. 219)





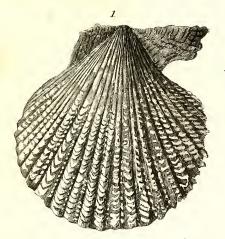
LESSER SCALLOP (P.220)





RED. S.C.. (P. 221.)





VARIEGATED SCALLOP. (P.221.)



WORN SC. (P.222.)

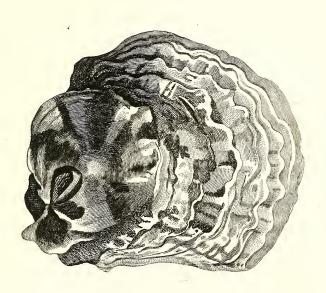


WRITHED SC. (P. 222.)



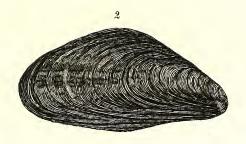


LARGER ANOMIA. (P.232)

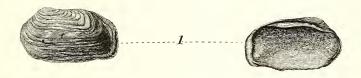


EDIBLE OYSTER (P. 255)





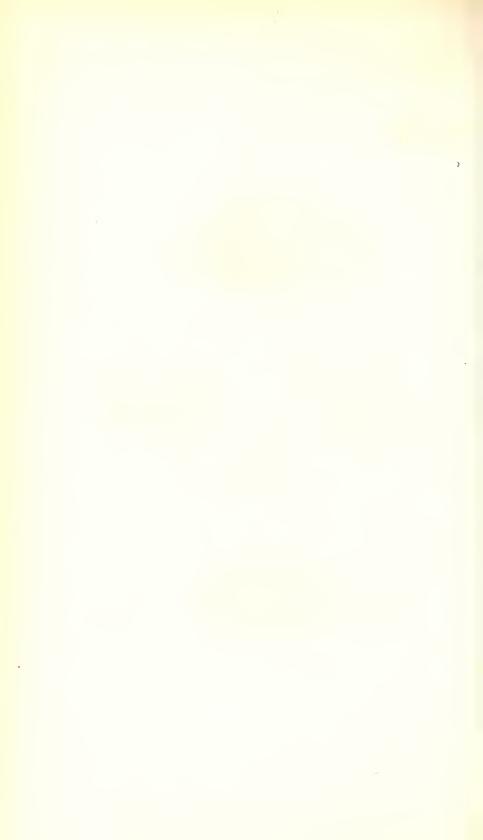
EDIBLE MUSSEL. (P. 230)



RUGGED M. (P. 235)

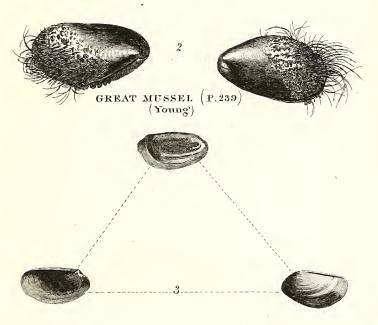


PELLUCID M. (P. 237.)



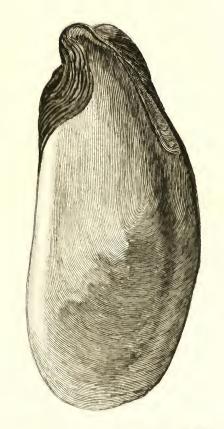


CROOKED MUSSEL (P. 237)



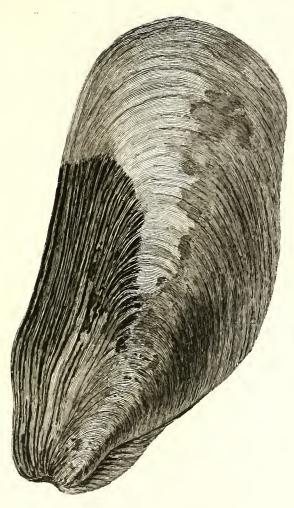
NACRE RAZOR SHELL (P.175)





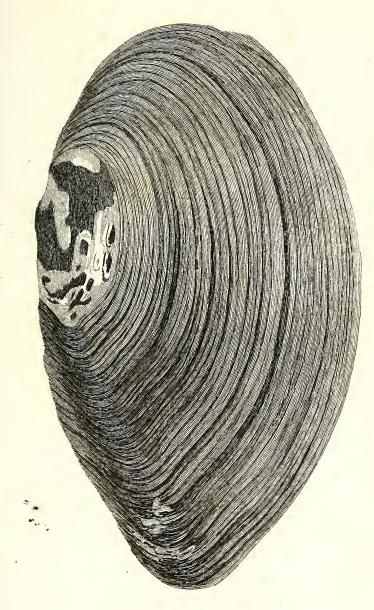
UMBILICATED MUSSEL (F 238)





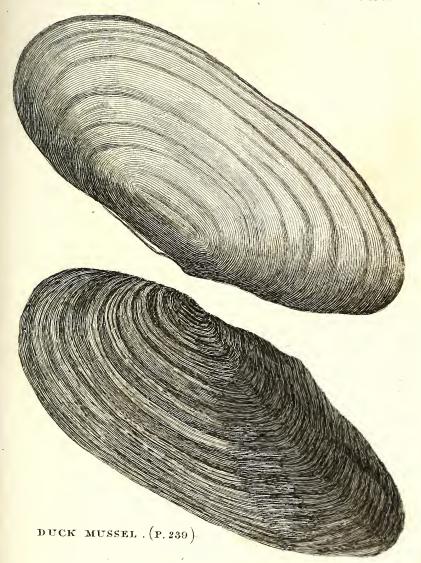
GREAT MUSSEL (P.238)



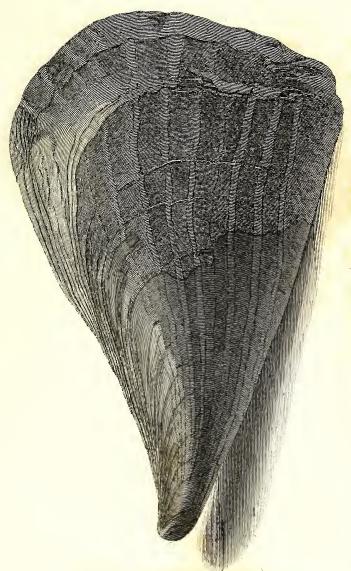


SWAN MUSSEL (P. 239)









BRITTLE PINNA. (P.243.)

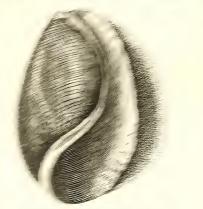


ANAME FORES CE



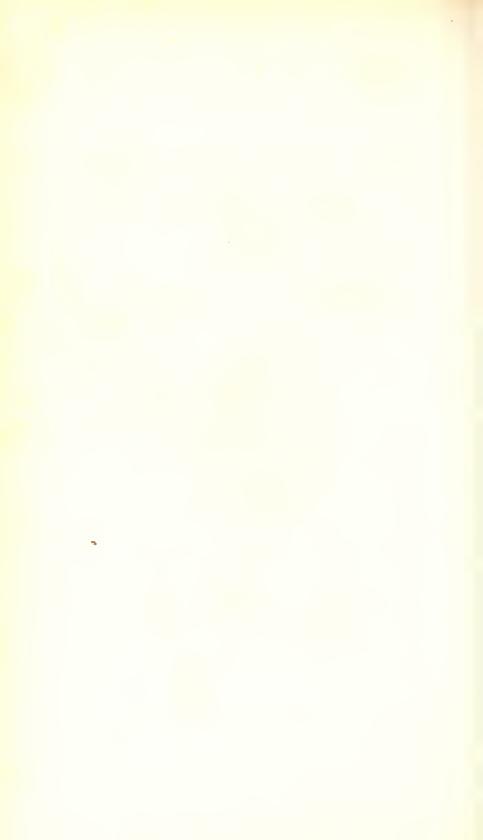
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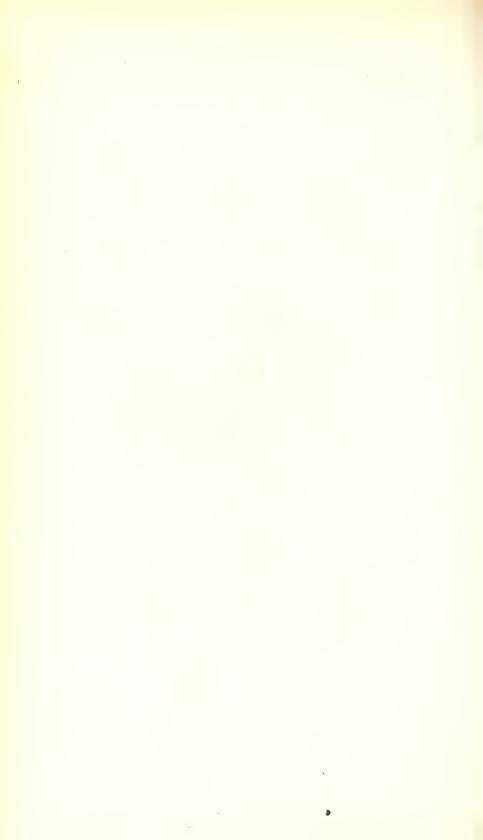


OVAL VOLUTE (P. 261)





TRANSPARENT DIPPEP (P. 257)





RETICULATED WHELK (Young')



MASSY WHELK (P. 287)

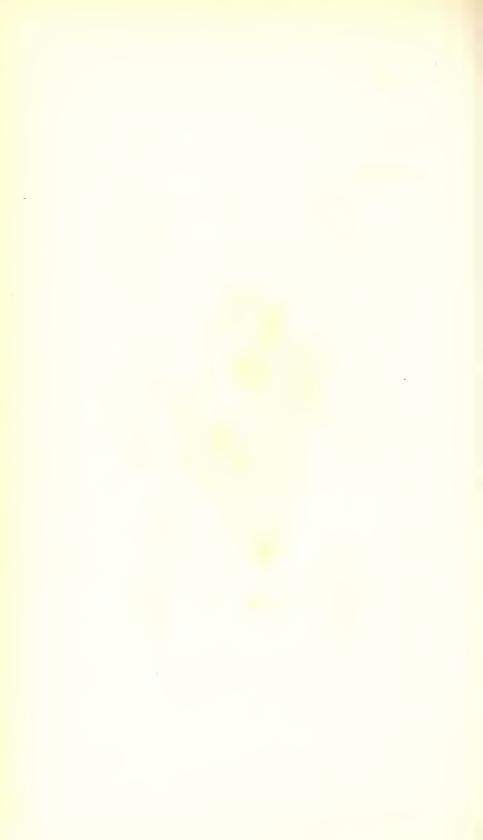




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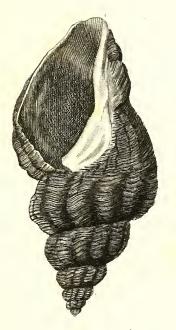


RETICULATED WHELK (P. 273)

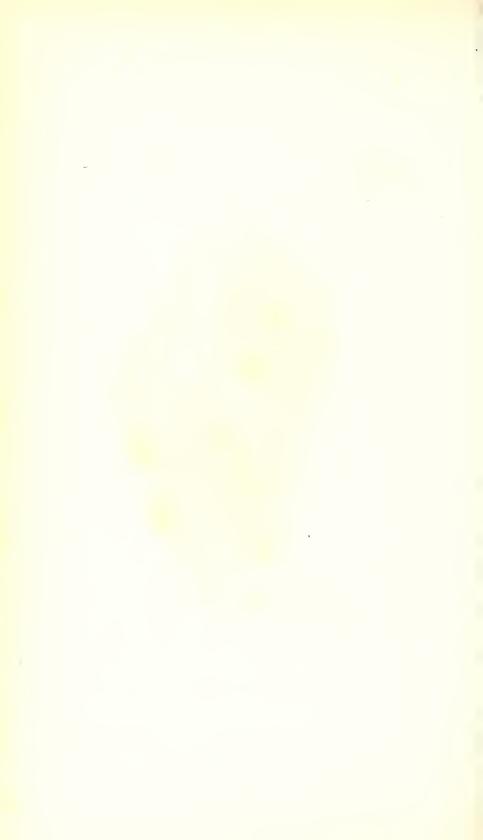


Pl.LXXVI.

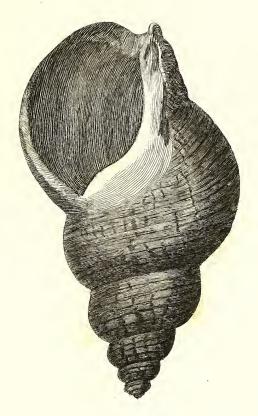
VOL.4. Frest.



WAVED WHELK. (P. 272.)



P1.LXXVII

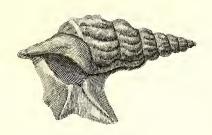


STRIATED WHELK VAR. A. (P.282)



vol.4. Test.

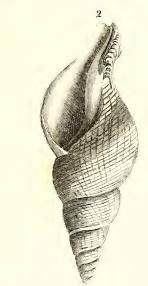
P1. LXXVIII





CORVORANT'S FOOT SCREW SHELL (P. 277.)



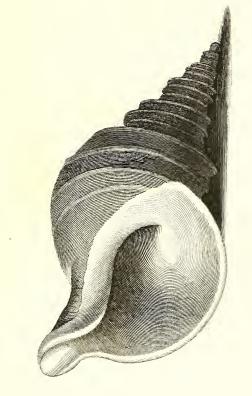


HORNY MUREX (P. 283)



URCHIN MUREX (P. 279)

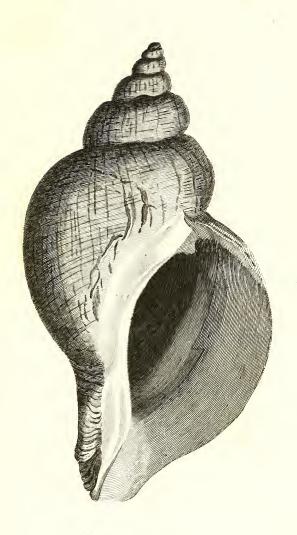




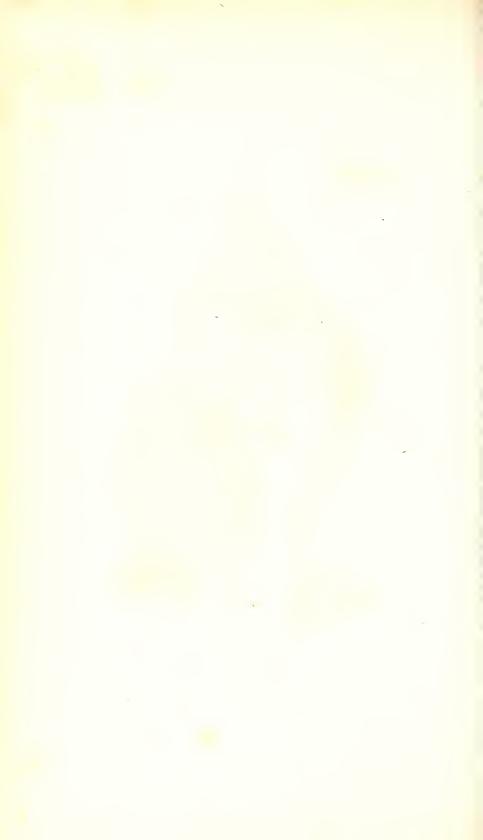
ANGULATED MUREX. (F.279.)

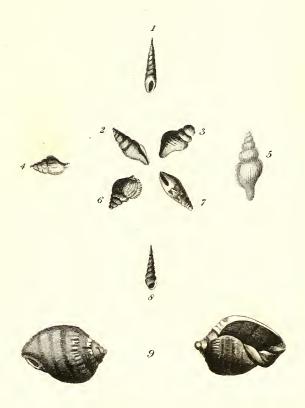
.96.



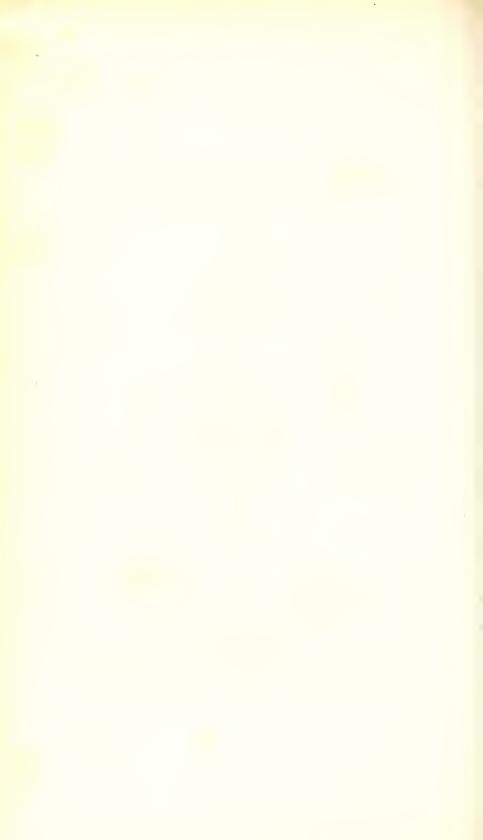


ANTIQUE MUREX (P.282)





P. 271



LIVID TOP (P. 291)



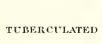
3 UMBILICAL T. (P.289)







CONULE T. (P 291)





TOP (P. 288)





5 LAND T. (P. 292)



LIVID TOP (P. 291)



3 UMBILICAL T. (P.289)







CONULE T. (P 291)





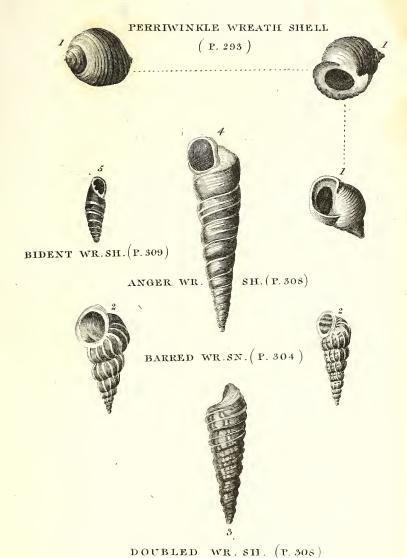
TOP (P. 288)





5 LAND T. (P. 292)









## DUSKY WREATH SHELL (P. 311)

SMOOTH SNAIL (P.337)



all the

ELEGANT WR.SH.(P.302)

FASCIATED SN. (P.336)



STUDDED MUREX (P.286)









ROCK SNAIL (P. 319.) FLAT SN. (P. 320.)

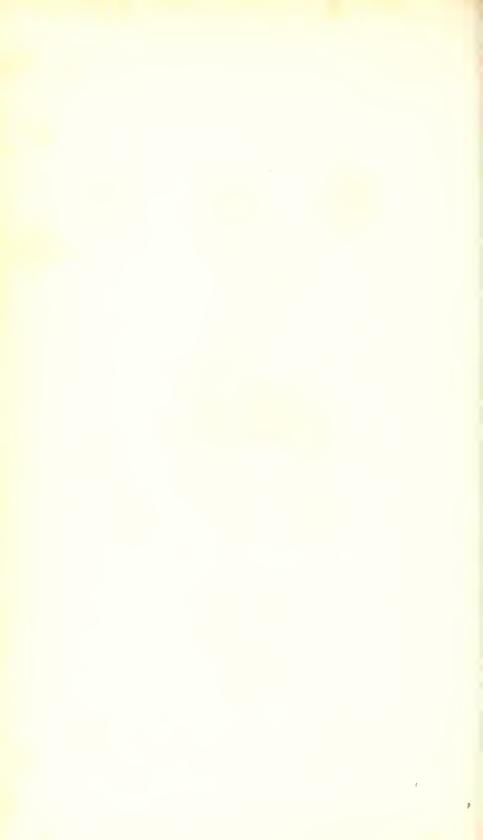


HORNY SN. (P.321)





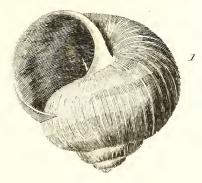
WHIRL SN. (P.320.)



VIVIPAROUS SNAIL (P.333)



EXOTIC SN. (P.328)





GARDEN SN. (P. 334)



VIVIPAROUS SNAIL (Young | P333)



ZONED SN. (P. 324)



STREAKED SN. (P. 324)





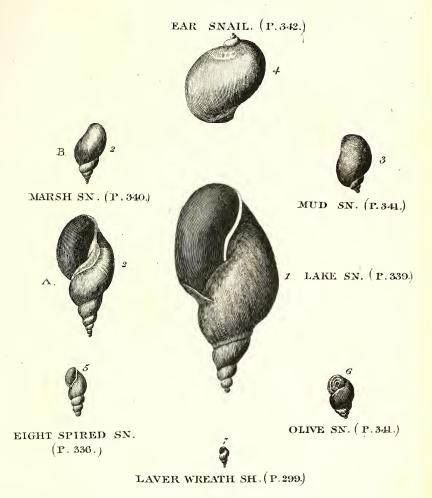
SHRUB SN. (P 330)

GREY SN. (P. 323



MOTTLED SN. (P. 325)





SMOOTHED SN. (P. 343.)

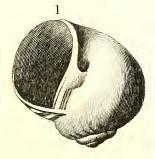


3

STRAND NERITE. (P.346)



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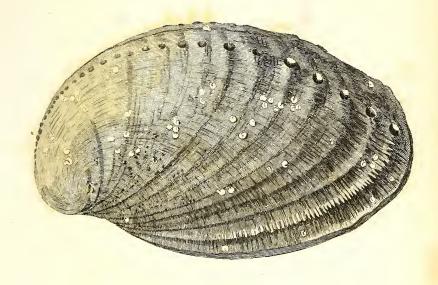


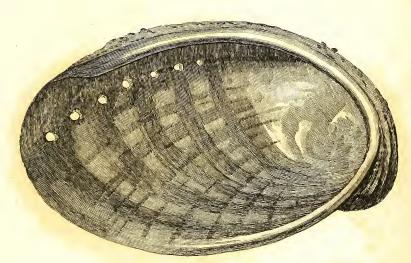
LIVID NERITE. (P.344)



RIVER NERITE . (P.345)

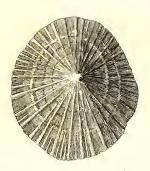






TUBERCULATED HALIOTIS (P. 348)





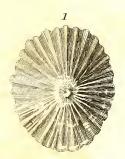
COMMON LIMPET (P.349.)



COMMON L.VAR. (P. 350.)



STRIATED L. (P.350.)

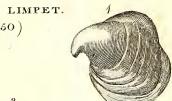


COMMON L. (P.349.)





BONNET LIMPET. ( P 350 )





INCLINING L. (P.351)

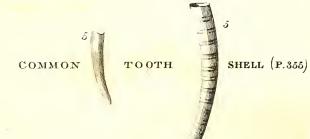


SLIT L. (P.363)



TRANSPARENT L. (P.352)

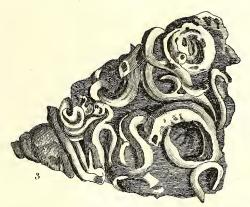






TRANSPARENT LIMPET, VAR, (P.352)

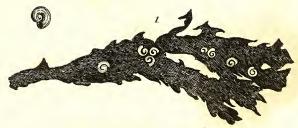




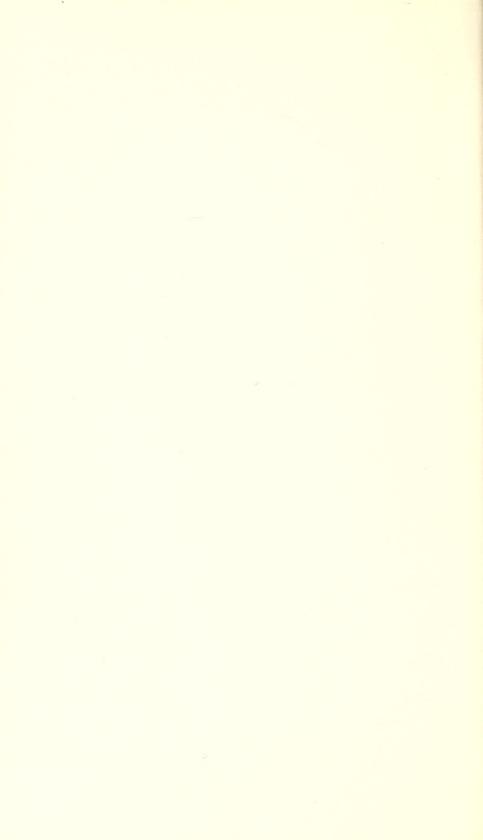
TWINED SERPULA (P. 561)



COMPLICATED S.



SPIRAL SERPULA (P. 358.)









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